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EDUCATION

VOLUME 69 No. 8

INDUSTRIAL EDUCATION NUMBER

A Decalogue for Vocational Industrial Education

Functional Industrial Arts in Modern Education

Education for Life Adjustment

The Scope, Organization and Principles of Training in Industry

Area Vocational Schools and Post High School Vocational Education

What is Happening to Apprenticeship?

Some Random Thoughts and Questions on Industrial Teacher Education

The Part-Time Co-operative Program in Industrial Education

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EDUCATION

A MONTHLY MAGAZINE

DEVOTED TO THE SCIENCE, ART, PHILOSOPHY AND LITERATURE OF EDUCATION

VOL. 69 APRIL, 1949 No. 8

INDUSTRIAL EDUCATION NUMBER

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EDUCATION

Vol. 69 APRIL 1949 No. 8

A Decalogue *for* Vocational Industrial Education

By ARTHUR K. GETMAN

Assistant Commissioner for Vocational Education, State Education Department, Albany, New York

AN important objective in all types of vocational education is to keep each pupil actively engaged in wholesome learning at his highest level of successful accomplishment so that he may become a worthy citizen, a competent, productive and economically independent worker and share in the cultural heritage and character building resources of our people. As we strive to improve the quality of our vocational education services, I make bold to propose a decalogue to achieve such an objective.

Assist in Expanding Vocational Education Services

1. School officials and teachers should take positive account of the need on the part of selected high school pupils to secure and to hold jobs once they are through their schooling. Each high school should provide the necessary minimum of specific preparation for a vocation for each pupil who will complete his formal education in that school. Such preparation will assist him to achieve a quick transfer from the discipline of the school to productive and remunerative employment. In four decades a worthy start has been made in many sections of our country to accomplish such an objective. However, much remains to be done in developing occupational training services for pupils in vocational curriculums, for pupils in life adjustment programs and for adults. Currently, needs for development arise in many central school districts, in many villages and cities and in intermediate districts or those areas served by Cooperative Boards or County Boards for Vocational Education. Local officials and teachers working hand in hand with the State Education Department can do much to extend vocational training opportunities where courses are already in operation or where the development of new centers is needed. Specific research studies are needed which deal with such factors as occupational requirements for competent workers, adequacy of present training facilities together with needed plant, equipment and library, types and numbers of pupils to be served, curriculum needs, personnel requirements and placement

and advancement opportunities for the foreseeable future.

Each year hundreds of thousands of youth enter employment and are absorbed into our society. The expanding nature and scope of technical changes create new demands for trained workers. Vocational education in serving these needs means a full, efficient and happy life for the individual. It assumes that each pupil's life has a serious purpose and makes provision for individual differences in motives, abilities and outlook. The expansion of the total vocational education facilities is clearly a united public responsibility in our complex society.

Provide Adequate Guidance for All Pupils

2. There is an urgent need for the extension and improvement of guidance services for all pupils. Education deals with people and the individual pupil and his personal development must be the primary goal of our total educational program. Guidance is concerned with such factors as the pupil's health, aptitudes, educational achievement, attitudes, emotional adjustment, interests, family relations, ambitions and choice of a vocation. Pupils need help in planning progressively to achieve educational and vocational goals suited to their interest and abilities. To facilitate this service each school should (1) know its pupils as individuals (2) know the community and transmit the information to its pupils (3) provide competent counseling for all pupils (4) assist pupils as they enter employment or further education (5) continue its service contacts with former pupils as adults and (6) continue its counseling activities throughout the calendar year. The maintenance of such pupil services requires as a minimum the maintenance of accurate accumulative records, regular counseling interviews, systematic instruction about occupations, surveys, follow up studies and community contact.

In vocational schools and departments each classroom teacher should be responsible for cooperative actions in supporting an effective guidance program. He should (a) review the record folder of each pupil (b) teach career implications of his subject matter (c) note deviations in achievement of individual pupils and seek remedial assistance as needed (d) contribute information about pupils for cumulative records (e) advise with pupils on problems within the scope of their special subject knowledge or experience and (f) refer pupils needing special attention to counselors. The teacher of practical arts has a unique contribution to make to the guidance of pupils who may be interested in vocational-technical or industrial education. He should cooperate with the guidance personnel in furnishing pertinent information about each pupil in his class.

Maintain a Balanced Program

3. In refashioning our high school programs so that every youth regardless of residence, economic status or race may secure a broad and balanced education through the twelfth grade, it is helpful to consider the activities and responsibilities of human beings. These may be divided into (1) the specialized duties and abilities required in one's vocation and (2) the unspecialized duties and abilities of all persons in such areas as citizenship, men-

tal and physical health, home and family living, recreation, association, communication, religion and the like. Preparation for specialized duties and activities is clearly vocational education. Training for each vocation must be essentially different, but training for the citizens' duties and responsibilities includes a wide variety of *general* activities and functions as outlined above. Attention is drawn to the specialized and the unspecialized functions of education, chiefly because the need for thoughtful integration between the two fields is made unmistakably clear to anyone studying the needs of individuals to meet their responsibilities in our complex and changing social order.

Construct Curriculums to Meet Specific Aims

4. A curriculum is here regarded as a group of subjects pursued by a pupil or by a clearly differentiated group of pupils to achieve a definite educational objective. The subjects within the curriculum are conveniently grouped into three categories (1) constants, (2) variables and (3) free electives. Usually the constants have been established by state agencies and include such subjects as English, social studies, science, and health. In the "variable" group are included the subjects which provide specialized preparation in a field chosen by the student with the advice and counsel of staff members and parents. The free elective group includes additional units of study enabling the pupil to develop special and personal interests and talents. Within the framework of this type of service, local school officials, teachers and pupils themselves cooperate in preparing curriculums within the standards and policies established at the State and local levels.

Each curriculum plan should include (1) a summary of the survey records, statistical data, recommendations of Advisory Committees and other statements which will present supporting evidence for a particular grouping of vocational subjects, (2) the number of weeks, the number of lessons per week in each subject to be studied, (3) an outline or course of study which indicates the general content of instruction, organization of teaching units, jobs and materials and methods of teaching, (4) a layout to scale of shops and laboratories, (5) a list of shop, laboratory and drawing equipment.

Prepare a Course of Study for Each Subject

5. A course of study is here regarded as the kind, amount and organization of content of instruction in each subject within the curriculum. Each course includes (1) an outline of the individual lesson units included within the course, together with a breakdown showing for each unit, (a) the teaching objective, (b) the required skills and abilities (c) the related technical knowledge, (d) the related attitudes and appreciations and (e) the activities embodied in the teaching of accident prevention, (2) the teaching pattern as revealed in an instructional manual, job sheets, operation sheets, pupil assignments, study references and the like. The course of study therefore becomes the special responsibility of each teacher who must organize his instructional program based on his own professional training, teaching and occupational experience together with the best test-

ed experience of the professional group with which he is associated. Clearly, each course of study will require an unusual amount of time and energy as a useful guide and pattern for the day by day teaching activities. The course of study is a cumulative document and must be kept up to date with thoughtful appraisals of daily lesson activities as a guide to proper adjustments for future teaching use.

Guide Pupils in Critical Thinking

6. For forty years we in education have benefited from Dewey's teaching in "How We Think." His five-point analysis has long been the basis of sound teaching practices. In vocational schools and departments these steps have made a vital contribution to the effectiveness of the teaching program because of the nature of the materials of instruction. Four guides to pupils in the use of Dewey's principles are suggested as follows: (1) Think before you act, that is, plan as thoughtfully as possible before acting or undertaking a piece of work, or the preparation of a statement to be made. (2) Think critically on the basis of available facts and in terms of cause and effect. Without persistent reflective thinking no pupil can learn to plan his shop and laboratory work, especially when diagnosis of trouble in equipment is involved. Logical thinking is of the utmost importance in dealing with the complex problems of production and management in which scientific studies and research have played and will continue to play such an important part. (3) Act in accordance with well-made plans built upon accurate thinking. Whenever an act is to be performed, have the thinking which supports it as accurate as possible and the performance showing the best effort that one can give. (4) Check the results of thinking by the observed outcomes. Profit by mistakes and strive to improve your thinking so as to do better next time.

Prepare Youth for Cooperative Living

7. There is surely a progressive movement toward a will to live cooperatively among many groups of our people. This is in sharp contrast to the aggressive, competitive and "the devil take the hindmost" attitude that has prevailed in many quarters since the turn of the century. Leaders and teachers should face current needs and trends and make ready a constructive attack on teaching practices that will aid youth and adults to live well together. Here two problems are apparent.

First, how to develop a maturity on the part of youth and second, how to create a school and community environment in which cooperative living can be practiced with satisfaction. Dewey's dictum "education is life" is the first line of approach. The best way to prepare youth for mature cooperative living is to guide them in such living practices here and now. Such practices should center in planning, conducting and evaluating activities together. A unique opportunity for experience in cooperative activities is to be found in shop and laboratory work where two or more pupils work together on a project. An excellent example of such organized effort is found in the local, regional, state and national chapters of the Future Farmers of America and the Future Homemakers of America.

Behavior is a means of satisfying needs. In the learning process people

must first of all be helped to recognize a need for living well together. Pupils now in school will soon be handling problems of adult cooperative living in a troubled world and the habits established in school, home and community living will play a vital role in building happy and useful lives.

Provide Supervised Work Experience

8. Work is highly educative. It is essential in building orderly habits of managing one's talents, for morale, for self confidence, for growth and widened experience and for income. The vocational school or department is the best agency for providing or guiding the provision of such work experience. Whenever work is conducted under school placement and supervision, the pupil is assured of a specific correlation between work interests, needs and problems and school instruction. This explains why the cooperative half-time plan of education is so successful.

A primary responsibility of teachers and community leaders at the present time is to develop ways whereby work may be made a part of the vocational training of maturing youth. Supervised work on farms, in homes, in business establishments and in industrial plants already is an integral part of occupational training. The chief need now is to build closely knit school-community relations in placing pupils legally in work opportunities, guiding them in production and management jobs and in using the combined work and class activities as an experience of growth and satisfaction.

Work and democracy go together. From the Pilgrims to production in our time, work has symbolized opportunity, satisfactions, family and community life and sharing in great national projects in war and in peace. We dignify all labor. Work well and creatively done has its own high personal rewards. Free men work joyously for themselves or for others; they know that work, leisure and recreation are part of the "good life," each bringing its own values. Work experience under school guidance has a vital role in teaching these elements of appreciation and the "glory of work."

Keep Abreast of Research Outcomes

9. The materials of instruction in vocational and technical courses are derived chiefly from research studies in pure science and applied science and from the best tested experience in the use of such materials in production and management processes. Technically and professionally trained teachers throughout their careers must keep themselves abreast of the constantly changing outcomes of scientific research. Systematic records and appraisals of specific studies have become an essential part of the teacher's equipment. Step by step teachers have discovered the value of such records supplemented by personal and public library facilities.

In considering the problems of teaching in all vocational fields, it is important to recognize the place and meaning of science in human welfare. Science is commonly understood to mean a body of verifiable and organized data that has been accumulated by controlled observation, experience or experimentation. Such data often lead to an approximate understanding of the cause and effect relations between events and things. These relations give us the so-called processes or

laws of science. A primary element in science is the scientific method, that is, the attitude of persons who secure the facts, draw conclusions, and make predictions and plans. An essential core, therefore, to the effective teaching of vocational subjects is the development of an attitude of mind and the ability on the part of students to apply the scientific method in their study, in their careers and in their responsibility as citizens sharing in the cultural heritage of this and former generations.

Research in the field of atomic energy has great current significance. We must aid our youth and adults to overcome the fear of the atom; rather they must think of it as a friendly source of help and power. Isotopes, for example, are very useful. It is already possible to test the health of the most remote organ in the body by means of isotopes. What happens to the structure of steel products, measuring the wear on the inside of a motor cyclinder and feeding and protecting plants are illustrations of the further use of these new scientific materials.

Teach American Values and Ideas

10. Education is a vital safeguard for our freedom and an enduring assurance of our social and economic well being. Currently there are three views of living well together in the nation, or indeed in the entire world. First, the many are controlled by a self-appointed few; second, unrest and revolt in which the many strive to rid themselves of dictators; third, the way of democratic living based on the ideal of "life, liberty and the pursuit of happiness." As we struggle to achieve this latter goal we have come to understand that education should deal with the following: (1) how individuals think and act, (2) how groups plan, organize and cooperate in reaching deserved goals, (3) how we are influenced by the environment in which we do creative work, enjoy leisure and strive for the good life. However, at the center of the circle which circumscribes our effort to solve such problems are the ideals and values of American Life. Education is a social process of actions toward goals based on a scale of values.

Essentially, the crisis in the world today is a crisis in moral values. What has broken down is not our economic mechanism but man's sense of right and wrong and his confidence in himself and in his fellowmen. In most of the world there have been lost the age-old values which came from Sinai and the Aeropagus. We in America have lost much of the motive and purpose so apparent in the minds and hearts of the Founding Fathers. At the time they were proclaiming the Bill of Rights to be a God-given heritage of free people and that those who shared in these benefits were accountable to God, there was taught a barbaric theory by Hegel and Karl Marx, that man's rights came from the state. American life stems from one set of ideas while the despair and desolation of Europe comes from the other. The moral and spiritual values of free men are the true measures of America. To help pupils understand these ideals, to be inspired by them, and to be creators of them is the great challenge of the present generation.

Functional Industrial Arts *in* Modern Education

By JOHN F. FRIESE
In Charge, Curriculum in Industrial Arts,
Department of Industrial Education,
The Pennsylvania State College

THIS is an effort to state as briefly and concisely as possible the place of industrial arts in the scheme of modern general cultural education. Industrial arts constitutes those aspects of industrial life and creative art crafts which are important in the unfolding life of today's American youth. The statements which follow are frankly those of industrial arts where it is functioning at high levels of effectiveness. To present it thus may prove an incentive. This exposition approaches the outline form in some instances, rather than extended discussion or argument. Some of the statements about industrial arts apply in large measure to other divisions of the family of practical arts.

Chronological Appearance of Industrial Arts—It is well to keep in mind the relative time of appearance of industrial arts in our educational unfolding. It came to meet a need as did the other important developments. Naturally, sharp lines cannot be drawn between these developments:

The tools of learning, 3 R's
The humanities, including social studies
The physical, biological and health sciences
The applications of sciences to actual problems of living.

Unusual or Unique Educational Contributions of Industrial Arts

Industrial arts is a widely varied group of creative real-life experiences associated with trades, industries and handcrafts, presented so as to develop manipulative skills, knowledge and appreciations representative of and interpreting modern American industrial life including workers and problems. It is a part of essential general education planned around common aspects of industry, crafts and their problems, faced by all Americans. At its best it represents and interprets as great a variety of these experiences as is locally possible. Industrial arts has from its inception, 1880-1890, taken cognizance of individual differences. Within the limitations of its subject-content it has provided experiences in helping to unfold certain facets of the individual human personality which are particularly associated with experiences combining the use of the mind and hand.

Education of Ideas Only is Dangerous—Joseph K. Hart in his book, *Adult Education,* states that an education of ideas alone is not only unsuited to but is actually dangerous to ninety-five percent of our youth. Even the graduate student (in education and

elsewhere) without practical teaching and other experience is an example of the danger of too much theoretical education.

In the past one hundred years too much of our education has been of the pre-digested variety, served on a platter (book or words) with the students having to do no more than read, listen or see and accept. This is second-hand educational experience in many instances. In a large measure the experiences, plans and thinking of others are done beforehand. Industrial arts brings the student to grip with real problems, jobs and the necessary thinking. It provides actual mental and physical attack upon problems of modern life.

Our first efforts in "manual training" were based upon the sound psychological principle of "learning by doing." Many common things in our modern living can be truly learned only by following this law of learning. Persons can learn many of the most important things of life very effectively this way.

Practice in Solving Problems—Learning to plan and follow a scientific line of attack upon the solution of any problem of life is rated as one of the chief goals of our present education. This aim is the only truly basic addition to the goals of secondary (and elementary) education enunciated first in the seven objectives in *The Cardinal Principles of Secondary Education,* 1918. Industrial arts early, through the project method (or educational project) gave emphasis to this very desirable educational outcome. Industrial arts provides about the most natural setting for problem-solving situations that can be established inside of school walls. Some of the instruction lends itself very naturally to: a normal incentive, the planning, the execution and the judgment. An unusual value lies in the fact that the learner, in carrying a problem through to completion, finally has before him a *tangible result* in concrete form which can be measured objectively. Yet the ultimate values are arrived at when the good teacher points out the common general *pattern* followed in working out a solution of the problem, the learner's "project."

Education Through Purposeful, Productive Work—The disturbing effects of the Depression, and its accompanying made-work programs, upon both adults and youths, is still a reminder of how personal attitudes toward work, work habits and appreciations of productive work can deteriorate. General school administrators and educational engineers early sensed this backwash in personal development entirely outside of mental and physical skills and knowledge. Even now some of these undesirable attitudes toward an honest day's work exist. Before the Depression ended it was possible at least to discuss the desirable personal developments which come to everyone *through* productive work. Industrial arts, taught by teachers with vision and perspiring pep has frequently included such work for school or community or civic enterprise, but based primarily on other aims such as guidance in occupational selection, or handiman skills. Educational productive work can also be planned and executed to emphasize desirable attitudes, appreciations and habits among and between workers, management and the general public. Education through productive work, however, if it is to be given needed

emphasis, must have funds, in some measure commensurate with those formerly allotted to the National Youth Administration and the Civilian Conservation Crops.

Industrial Arts Represents the Dominant Factor in American Life—Industry and crafts with their accompanying large scale production based on the sciences, has been the factor in American life that has changed our society most since 1920. Very many of our social, economic, ethical, occupational and political problems stem from the results of our industrial production. Effective industrial arts helps to develop knowledge, skills, and attitudes. It is concerned with workers, management, the public, raw materials and many of the products of industry. Young people need these studies while working with representative *things* of industry, with a teacher who represents workers *and* management in industry. One senior high school went so far a few years ago as to employ an industrial arts teacher to teach just these non-manual phases of industrial arts to students in all industrial arts classes. Likewise it had a design teacher (man) who taught consumer knowledge of the principles of structural and aesthetic design in the products of industry to all industrial arts students.

Accident and health and safety programs are now acute problems, brought on in large measure by the development of modern industry. Where can these and other problems be studied and applied better than in industrial arts, which in education represents this presently dominating force? Vision, skill and daring are needed by the teacher in tackling these "non-skill" phases of industrial arts. The teacher also needs encouragement and support from his school officials.

Educational Philosophy

Philosophy of Industrial Arts—A hopeful sign of professional maturity is a growing interest among industrial arts educators in developing a body of philosophy of industrial arts, and of integrating it with the philosophies of general education. One good federal bulletin was published a number of years ago.[1] City programs of industrial arts too, are beginning to formulate statements of their beliefs. A number of state bulletins[2] in industrial arts have made contributions in this direction, as have bulletins from teacher training institutions.[3] Professional books in industrial arts[4] are recognizing the growing importance of such statements of creed as a basis of more specifically stated aims. There have been a number of challenging articles on philosophy of industrial arts in the professional journals of industrial arts.

Published statements of philosophies of industrial arts commonly clas-

1 *Industrial Arts, Its Interpretation in American Schools*, Bulletin 1937, No. 34, United States Office of Education.

2 *Industrial Arts Handbook*, Bulletin 7B, State Department of Education, Jefferson City, Missouri, 1941.

3 Schmidt, Fred J., *The Evaluation of an Arts Workshop*, Ball State Teachers College Bulletin, Muncie, Indiana, 1944.

4 Bawden and Others, *Industrial Arts in Modern Education*, (Manual Arts Press) Chap. 1, 1934.

Friese, J. F., *Course Making in Industrial Education* (The Manual Arts Press) Chap. V, 1946.

Wilbur, G. O., *Industrial Arts in General Education*, (International Textbook Co.) Scranton, Penn., 1948.

sify them in the following categories: psychological, sociological-economic and occupational. Reflected in the statements of philosophy are such phases of industrial arts as: aims, curriculum and courses, methods, shop and personnel organization, organization of content and teachers. The past fifteen years have showed decided efforts to establish a body of philosophy of industrial arts and to make it contribute to general education where it can do so most effectively.

Aims of Industrial Arts

Some Fuzziness of Aims—Aims grow out of philosophy. An unhappy tendency is to state these aims in very general terms. This is frequently due to lack of concise and analytical thinking. In particular the aims should be achievable. They should certainly reflect unusual or even unique educational contributions of industrial arts. They should be briefly worded in simple language that students, public and faculty cannot help but understand. A very common fault is marked overlapping of statements of aims.

Number of Aims—The number of aims for the industrial arts program and for each course in it has an important bearing on effectiveness of the program. In the 1920's two, three or four aims for the program or a course were common. Studies showed that they were essentially in the category of manipulative skills. Representing American industrial life, its workers, organization, and problems was not possible with a scope so restricted.

In the late 1920's the informative, appreciational and personal developmental aspects in aims began to gain prominence. Aims multiplied. A rather authoritative published statement in industrial arts contained thirteen aims with some overlapping. A somewhat smaller number seems more effective. Often when numerous aims for a program or a single course are listed some of the aims are in reality claims.

Aims for an industrial arts department or program are a composite list without regard to relative emphasis. Aims for a course are determined by such factors as pupils involved, subject area, grade level and philosophy and aims of a particular school. With these factors in mind, if unity, emphasis and coherence in a particular course are to result, there should probably be one dominant aim and a limited number of secondary and reasonably related ones. When course aims are thus established a functioning course of study can be built in which each of the following factors may make its educative contributions: kind of equipment, organization of personnel, organization on content (educative experiences) and the determination of the respective parts to be played by both pupils and teacher.

Some Common Aims of Industrial Arts—Following is a composite list of aims for industrial arts programs. The list constitutes a summary of and in some instances consolidation and telescoping of aims. The aims reflect psychological, social, economic, and occupational relationships and backgrounds. Some are time-tested; others are of recent origin. The aims for a particular course should be selected from these *and then restated in terms of the nature and content of the course.* A frequent source of confusion about the aims of an industrial arts department or entire program is that they must be inclusive enough to cover both

mandatory and optional courses often in the same subject-area.

Aims of Industrial Arts for Junior High Schools

(Required Coursework)

Essentially Manipulative Aims

1. To provide self-exploration in and occupational information about representative industrial and related occupations for purposes of educational and vocational guidance.

2. To provide a degree of skill and knowledge in, and to remove elements of fear from common mechanical-electrical devices through use, care, adjustment, and repair of tools, machines and devices of the home and its environs.

3. To give early adolescent boys and girls opportunities to make and do useful things of their particular interest or desire with industrial and craft tools and materials.

4. To provide creative experiences in art-handcrafts for present or future avocational purposes.

5. To develop skill in interpreting common drawings and other common graphic representations found in the press and popular magazines, and to make simple mechanical drawings and sketches.

6. To develop consumer knowledge and appreciation of materials, products, tools, workmanship, and design in certain areas of modern industrial production.

7. To develop good work habits and attitudes toward work, workers, and management.

8. To provide opportunities for pupils to develop patterns in conscious planning and to secure practice in solving problems in mechanics which involve planning.

9. To provide technical information essential to manual instruction or otherwise educationally broadening.

10. To provide psychological experiences of learning through directed neuromotor experiences.

Additional Aims of Industrial Arts and General Industrial Education in Senior High Schools

(Elective Coursework)

Most of the aims of elective courses in industrial arts in senior high schools are found in the list of those for the required instruction in junior high schools, but there should be no duplication of subject-matter coverage. Relative emphasis upon the various aims may vary greatly in the two school levels. Following are aims which apply to the senior high school level particularly:

1. To help develop elementary understandings of occupational-social-economic-regulatory factors in our current industrial civilization.

2. To provide sound basic drafting experience for pre-engineering and technical school students.

3. To provide certain phases of shop training for "technical" curriculums.

4. To provide "general industrial education" (for varying degrees of versatility in families of trades) if equipment and staff are adequate and the service is not otherwise available. (For some of the so-called 60%)

The latter type of industrial coursework will be expanded upon later.

A number of authoritative statements of aims of industrial arts programs have appeared in various state and federal bulletins on industrial arts since about 1936. A recent state leaflet by the Michigan Industrial Education Society and the Michigan State Department of Public Instruction, 1946, is titled *Industrial Arts in Michigan.* "Teaching Aims of Industrial Arts," *American Vocational Journal,* December 1946, is another good recent summarizing statement of aims of industrial arts.

Industrial Arts an Integrated Educative Experience

To the writer, integration is correlation to the Nth degree in which a given unit of instruction is more important than the various "subjects" whose contributions make the unit possible. Subjects tend to lose much of their identity. They assume submerged positions irrespective of unusual or unique contributions to the learning experience which they can contribute.

Industrial Arts and Academic Subjects—The integrated curriculum as such has naturally failed to evince marked enthusiasm from any considerable number of industrial arts educators. Examples of complete integration with academic subjects are few according to professional literature. There are, on the contrary, numerous writings rather directly opposing such complete merging of identity of industrial arts with academic instruction. This does not mean that industrial arts does not recognize the fact that it can be taught so as to vitalize other subjects. Such, however, is a secondary value not the chief value of the instruction. The best cooperation comes about through many and fine opportunities for direct and purposeful correlation, back and forth, between industrial arts and the humanities and sciences. Generally, industrial arts teachers *welcome the inclusion of these correlations in their courses of study and in the courses of cooperating teachers.*

L. Thomas Hopkins[5] points out that academic subjects are largely based upon controlled learning while the arts use an expressive self-directive learning experience. The kind and amount of morale building which industrial arts may accomplish for academic content varies greatly with subjects and grade levels. It is most effective in the elementary grades. Otherwise, correlation is an excellent device for making effective relationships between industrial arts and other "subjects".

Industrial Arts Correlated with Other Subject Areas—As early as 1912, Ira S. Griffith, published his *Correlated Courses in Woodwork and Mechanical Drawing.* Even in the early days of manual training some correlations were practiced between various elements in that former program. Correlations between manipulative skills and required and broadening informative and appreciational content long have been practiced in industial arts. At its best industrial arts has been correlating some phases of its work with English (as providing theme topics and titles of vital books for outside reading lists). In turn, English has taken over the task of checking poorly written reports, plans and examinations which are part of industrial arts. Similar excellent cooperative relationship with other departments and inter-correlations of content can be pointed to with social studies, chemistry, physics, mathematics, drawing, health and vocational and educational guidance. These are not haphazard relationships, but planned curricular correlations where they have obvious significance. All of the rather *different educational* values of industrial arts are thus retained and truly worthwhile inter-departmental relationships are also achieved.

Industrial arts welcomes this type

5 Hopkins, L. Thomas, "The Arts Promote Academic Learning," Teachers College, Columbia University, New York.

of inter-departmental correlation, just as it practices intra-departmental and intra-course correlations. It does not give up its somewhat different real-life educational experiences in a dominating area of vocations. It provides self-purposeful activities, expressive and self-selecting learning. It goes beyond thoughts and words to include also symbols and things. It and the other practical arts and vocational education are all we have left in our schools of that important part of Colonial education which was learned outside of school walls. At its best industrial and other practical arts are truly as much a way of learning as subject-content.

Industrial Arts at Varying School Levels

Effective Industrial Arts in Elementary Schools—The Social-Industrial Theory of industrial arts, first enunciated by Bonser and Russell, 1907-1911, called for attention to the consumer rather than producer aspects of elementary school industrial arts. Emphasis was placed upon studies and observations of and creative expression through foods, clothing, shelter, utensils and records. At this grade level industrial arts can serve as a handmaid of other studies because of content, purpose, and the fact that a single teacher is generally responsible for all of a student's educational experiences. This grade level has not in the past been an area for specialist men teachers. Some persons question whether industrial arts specialists, especially men, can really serve effectively in the industrial arts of our elementary schools particularly at the primary level. More adequate preparation of specialist and regular elementary school women teachers for such positions seems plausible. Some excellent programs of combining elementary fine and industrial arts have been developed. The appearance in recent years of specially planned general shops or laboratories in some modern elementary school buildings holds promise. Classroom teachers at times take their classes to these rooms to accomplish expressive and self-selective learning. The separate shop room holds the possibility also, if the number of students in a building warrants, of the employment of one teacher trained particularly for industrial arts in elementary schools.

A few teacher education institutions have established at least "minors" in elementary industrial arts, but they have not been encouraged by demand for specialist teachers. Apparently those most interested in this phase must still sell their programs to school administrators if specialist teachers for elementary school industrial arts are to be prepared in numbers. The secondary school teacher of industrial arts has often proved a valuable technical assistant and consultant for grade teachers who wish to undertake elementary school industrial arts, but who have had little or no formal preparation for it in their teacher education.

Effective Industrial Arts in Junior High Schools—Here is the most natural setting for the concept most frequently brought to mind by the term industrial arts. In the period from 1912 to 1916 three educational developments influenced and expanded industrial arts education. The first was the coming of a truly American school, the junior high school. The philosophy behind its conception and its im-

mediate practices emphasized exploration and overviews, exploration of self, of more advanced subject matter areas, and of vocations. Industrial arts fit naturally into this concept, and changes in its aims and practices took place rapidly. "General industrial arts" and the "general shop" were born. Secondly, psychology and sociology gave us the concept of adapting instruction to individual differences. Industrial arts and its forebears had previously and in considerable measure done just this thing because of the very nature of its educative experiences. Now it adopted individualized instruction for a large part of its teaching beyond the first stage of providing necessary initial development of basic manipulative skills and knowledge. In the third place, vocational education as a whole and particularly vocational industrial education was at this same time coming to national prominence through federal legislation. This development helped clear our thinking between industrial arts in general education and preparatory industrial education for entrance upon wage-earning trades, industries and crafts. These three developments at the same period gave new and more pointed and logical direction to industrial arts education planned to serve the most *common* industrial education needs of *all* American youth, including work for girls in modified forms.

Teachers are the key to success of industrial arts programs. These men now must be general educators in every sense, yet they also need wage-earning experience to become true interpreters of the industrial life about which they teach. They must be versatile classroom leaders in three major ways: (1) masters of basic skills and knowledge in a variety of trade and handcraft samplings which they teach, (2) teachers with various accepted classroom-type teaching techniques as well as of manipulative instruction, and (3) managers in the production sense, managers of shop personnel, of plant and equipment, supplies, records and safety. It is no wonder that school administrators frequently call on some of them for a variety of marginal responsibilities. During the war period many were called, along with vocational industrial teachers, to staff war production training classes, and others to become technical instructors in the armed services.

Time assigned to industrial arts in junior high schools is important. Our best schools commonly offer four or five periods per week, and a few permit up to fifteen periods for youths in "special education." Two periods per week is wholly inadequate. Quite generally industrial arts is required in the seventh and eighth grades and optional or required in the ninth. There is evidence of a slowly growing trend toward making it mandatory in the ninth grade also.

The aims of industrial arts programs for the junior high school have been referred to earlier. Different aims of particular courses receive different degrees of emphasis depending (a) upon the general educational philosophy of the school, (b) upon the particular nature of the industrial arts shopwork, and (c) upon an analysis of the needs, interests and various abilities of the students to be served.

There is a close relationship between the kind and amount of equipment of an industrial arts shop and the chief and secondary aims of the courses

taught in it. For example, a sheet metal course which emphasizes self and occupational exploration as a chief aim must have equipment (and jobs) that are representative of production equipment in sheet metalwork. On the other hand, a general industrial arts course in various handcrafts emphasizing creative avocational experiences and consumer knowledge and appreciation aims will have a relatively large number of hand tools typical of personal handcraft work.

Studies of the past decade show a definite trend toward a greater variety of shops and shop equipment. The several general shop forms of organization continue to grow in favor over the strictly unit shop form, either as a composite general shop or as a related-trades shop in a family of vocations.[6] A few industrial arts subject areas such as auto mechanics, foundry, and wood turning seem to have arrived at a relatively stationary point of development. Others like graphic arts and electric work, and plastics and other handcrafts are growing in numbers.[7] Teachers in general shops indicate that about four different kinds of shopwork constitutes the efficient maximum load that an industrial arts teacher can handle successfully in most types of general shops.[7]

Effective Industrial Arts for Senior High Schools—First we must recognize that there is a fairly well defined institution known as *the* junior high school which attempts to serve almost all American youth. Being a school for all, a considerable part of its curriculum is rather closely defined. Except for courses based on sex differences, options are limited. Varying types of senior high *schools,* on the other hand, have bodies of elective course materials based largely upon needs and interests and capacities of individuals. Industrial arts is definitely elective at this level. It must therefore serve some needs of those who select it. Unfortunately, the same keen analysis of students to be served which is found in junior high school industrial arts programs can scarcely be said to obtain so consistently in various kinds of senior high schools. We must recognize the fact that geographic locations of senior high schools in different towns and cities and areas of a city should and frequently do affect the general overall picture of the curricular offerings established to meet the needs of particular groups of youth. Industrial arts programs in many senior high schools still have much about them to be desired. We must recognize on the whole that generally the youth of senior high schools fall into three rather distinct groups. Group I (approximately 20%) is composed of students in various kinds of directly purposeful preparatory vocational education for trades, agriculture and business. The students expect employment upon leaving school. Group II (approximately 20%) is composed of students who have fairly clear occupational goals which require scholastic preparation beyond the twelfth grade. This is largely the college preparatory group. Group III (approximately 60% at present) is composed of youth with not too clearly defined vocational

6 Friese, John F., *Course Making in Industrial Education,* (The Manual Arts Press, Peoria, Illinois) 1946, p. 149 ff.

7 Borri, Robert, *The Organization, Content, and Teaching of General Industrial Arts in Selected American Secondary Schools,* Ed.D. dissertation, The Pennsylvania State College, 1942.

goals who will have little chance of attending a college or higher school. They are pursuing general courses in a type of people's college, frequently with curricular offerings based on little thought and critical analysis of theirs and society's most pressing needs.

The curricular offerings in many senior high schools need critical scrutiny and revision. The industrial arts there should not be an overlapping of the work of the junior high school. Neither need it be a continuation of the same type or kind of work. *Functioning* educative experience in trades and creative handcrafts, and studies of industry, its workers, problems and products are some criteria for judging the kind of programs which would serve each of the above groups of students best.

With some marked exceptions there are not a great many individual programs of industrial arts for each of these three groups, to which reference can be made. Roughly, Groups I and II can be joined for industrial arts coursework. This work might emphasize the consumer knowledge and appreciation aim, the creative free-time handcrafts aim, household mechanics, and the development of ability to interpret all kinds of graphic representations found in popular literature and the press. Some of the work under these aims is applicable similarly to both boys and girls. In most instances one or two semesters of work is all that could be reasonably justified.

In Group III we have both boys and girls. They have some needs in industrial arts common with students in Groups I and II. They can be served in the same way and in the same classes also. Beyond this point, however, either a modified form of industrial arts or a modified form of vocational industrial education appears to be greatly needed by many. With the exception of some girls who will marry early all of the 60% Group will engage in wage-earning vocations, and on the basis of numbers now employed in trades, industries, transportation and communication in the United States, we can expect about sixty percent of the 60% Group to find their first jobs somewhere in the industrial and related vocations.

The critical question today is what functioning experiences in *industrial* coursework can industrial arts *teachers* provide for the sixty percent of the 60% Group. A first consideration immediately indicates that the coursework must be largely *general* pre-occupational rather than pre-preparation for specific payroll jobs. For many of this group specific job skills will be learned in short periods directly at the place of employment. Some of the characteristics of the general pre-industrial coursework are as follows:

Versatility in elementary common skills in skilled and semi-skilled trades, directed toward families of trades, industries and related service vocations.

Broad training in safety.

Selected phases of technical knowledge common in many semi-skilled trades, industries and service jobs.

Experiences to develop good work habits, attitudes and appreciations of and toward employment and fellow workers.

Studies of problems of organized labor, management, and related regulatory conditions imposed by society through government.

Training in how to find and hold a job.

The above outlines only the general characteristics of realistic programs

for the youth in Group III who will find their first wage-earning employment at lower levels than those in skilled trades. Youths in this group have as much right to some help in preparing for vocations that they will likely be employed in as do those who are prepared at public expense for skilled trades, agriculture and the professions.

Industrial arts, because of variety of courses, freedom from circumscribing regulations, and versatility in the qualifications of many of its teachers seems reasonably well qualified to do this job. A few prominent vocational industrial education leaders recently have publicly indicated that this educational service can probably be rendered best in many places by a new form of industrial education, not exactly industrial arts and not vocational industrial education, and taught by specially *qualified* industrial arts teachers.

Here is the greatest challenge to industrial arts teachers and supervisors since the coming of the junior high school. A realistic program for many of the 60% cannot succeed without real support and encouragement from general school administrators. We need philosophy, research, practical trials in schools, and reports of successes and failures.

Effective Industrial Arts for Adults —Industrial arts for out-of-school citizens is in no sense a border-line program though the persons involved, hours of instruction and modes of payment for instructional services are not those of traditional schools. Many American cities, particularly some with certain European backgrounds, have long accepted the educational philosophy that "education begins with the first cry and ends with the last sigh." Adult education in a great variety of types runs back fifty years and more in many communities.

One of the strong and more recent aims of industrial arts in secondary schools is concerned with avocational hobbies in creative handcrafts. This is a very important and common one in educational programs for adults. A second important industrial arts aim for adult classes is that of household mechanics, including repairs, adjustments, safe use, simple constructions and finishing, and removal of the element of fear in the use of many of the mechanical-electrical appliances with which our civilization has surrounded us.

Instruction for adult classes (including industrial arts) is paid for in various ways and combinations of ways. Support for various kinds of extension classes for adults (other than vocational) is available in some states. At least one state and probably others makes the establishment of adult classes mandatory for a district board of education upon petition of a requisite number of citizens. Industrial arts for men and women has long been included in such programs in both large and small communities. Classes continue with surprising enthusiasm. Content again, must be based upon functioning experiences derived from analyses of the needs of the persons to be served.

"It is a peculiar twist, to my academic way of thinking, that makes reading, writing, and arithmetic fundamental. They are not. The fundamental things are homemaking, and industry and the fine arts."

— George D. Strayer[8]

8 ***Education for Employed Youth***, Bulletin, University of the State of New York, Albany, 1927, p. 26.

Education *for* Life Adjustment

By J. C. WOODIN

Director of Industrial and Adult Education,
Wichita, Kansas

HAVE you been hearing the magic words spreading across the nation in the field of general education? Have you heard of the Prosser Resolution? What does it mean? Has some magician pulled something new out of the hat in the field of education? Have the objectives of general education so changed that we no longer are to be respectable in training for college only? What does life adjustment mean? How does this affect our traditional high school program of today? Let's look into this new trend that is taking hold of thinking men and women in the fields of Vocational and General Education and see if we can't answer these questions.

Historical Development

In a bulletin prepared by the U. S. Office of Education in preparation for the national conference on "The Prosser Resolution" held in Chicago, May 1947, the following interpretation was given: "Now that 5 regional conferences have been conducted by the U. S. Office of Education for the purpose of promoting the consideration of the Prosser Resolution it is apparent that there are a few expressions in the resolution as originally stated that are consistently misunderstood and/or misinterpreted. Such misunderstanding or misinterpretation is having a tendency to lessen the effectiveness of the resolution and to stand in the way of focusing attention on the problem Dr. Prosser had in mind."

In January 1944 the Vocational Division of the U. S. Office of Education began a study of *Vocational Education in the Years Ahead.* The study covered a period of 16 months. The Working Committee of 10 was supplemented by a Reviewing Committee and a Consulting Committee. More than 150 persons had a part in the study. Dr. Prosser presented the resolution in the final meeting of the Consulting Committee June 1, 1945. The resolution was adopted unanimously by the delegates. Their statement follows:

"It is the belief of this conference that with the aid of this report in final form, the vocational school of a community will be able to prepare 20% of its youth of secondary school age for entrance upon skilled occupations; and that the high school will continue to prepare 20% of its students for entrance to college. We do not believe that the remaining 60% of our youth of secondary school age will receive the life adjustment training they need and to which they are entitled as American citizens,—unless and until the administrators of public education with the assistance of the vocational education leaders formulate a similar program for this group.

'We therefore request the U. S. Commissioner of Education and the Assistant Commissioner for Vocational Education to call, at some early date, a conference or a series of conferences

between an equal number of representatives of general and vocational education—to consider this problem and to make such initial steps as may be found advisable for its solution."

After receiving the resolution, the U. S. Commissioner waited until the director of the new Division of Secondary Education had been appointed and then asked him to plan in cooperation with the Division of Vocational Education, a series of conferences to consider ways of reaching a solution to this problem.

Since that time 6 or 7 regional and 2 national conferences have been held. The conferees are all agreed that many valuable experiences were gained from the conferences. Participants in these conferences have tended to spend much time over a consideration of the *percent's* expressed in the resolution.

It was not intended that the resolution focus attention on whether more or less than 20% of the youth of high school age are now being served by vocational education or upon whether more or less than 20% of the youth were headed for college. The percentage figures were used to refer to the *approximate proportions only,* and the fact still remains that the group under consideration is the major group of high school age.

In September 1947 Dr. Studebaker created a Commission on Life Adjustment Education for Youth. This commission is composed of representatives of all national associations concerned with education, including a representative of the American Vocational Association in the person of Dr. J. C. Wright. The commission has been very active since its appointment. They have defined Life Adjustment Education as follows:

"Life Adjustment Education is designed to equip all American Youth to live democratically with satisfaction to themselves and benefit to society as home members, workers and citizens. It is concerned especially with a sizeable proportion of youth of high school age (both in school and out) whose objectives are less well served by our schools than the objectives of preparation for either a skilled occupation or higher education."

The Work of the AVA

In 1946 President Greiber at the St. Louis conference of the American Vocational Association appointed a committee of the A.V.A. membership to consider the approach to the problem of the 60% or, as it is now stated, Life Adjustment for Youth, from the standpoint of Industrial Arts and Vocational Education. This committee is still active and working in conjunction with the U. S. Commission appointed by Dr. Studebaker. This A.V.A. committee has a very close tie with the Commission in that Dr. J. C. Wright, a member of the commission, is also Chairman of the A.V.A. committee.

This committee under the guidance of Dr. Wright is now working on the contribution of practical arts and industrial education to Life Adjustment Education for Youth. They have established the following premises upon which they are to approach these contributions:

1. We should adhere fairly closely to the secondary school youth comprising the 60% in the Prosser Resolution, including both in and out of school youth.

2. We should express our views in non-technical language, as far as possi-

ble avoiding use of academic phraseology. In other words write so that pupil, parent, layman and teacher can equally well comprehend what is proposed.

3. We should recognize that the programs recommended are classified as *General Education* and are not expected to meet standards for state plans for vocational education. Hence the responsibility for action is primarily General rather than Vocational. However, vocational educators can contribute their experience in job analysis, determination of subject matter for a given objective, lesson planning, supervision of work experiences and professional training of teachers to the better education of this large group.

4. We are proceeding on the theory that the youth in this 60% group represent an average cross section of the secondary school pupils and their abilities with as wide a range as other groups. In this group will be found many of the future leading citizens of the community. In it also will be found backward students as well as those of high ability just as in the other two groups.

5. We believe that equal credit for equal effort should be given toward graduation.

6. We believe that students in this 60% group should be given a practical education and training in the use of the mother tongue, citizenship, and health and that they should be allowed and encouraged through practical guidance to take such educational subjects as will make a contribution toward their life career objectives.

Barriers to Action

When you attempt to analyze what you need do or what the school system in which you work needs do for this so called neglected larger group of high school age students, you are immediately faced with many barriers. First, it is thought by many parents that they are not respectable unless their son or daughter goes to college. Second, the same thought is very prevalent among the academic school teachers who come in contact with their youngsters in the elementary and secondary classroom. These teachers are perfectly sincere in their convictions. Third, is the fact that so many subjects are required of high school students that it is difficult to include any life adjustment classes within the already crowded curriculum. Fourth, all of us have been too complacent in feeling that our job is well done when we give college preparatory courses to the high IQ students. Fifth, too many of us are not acquainted with nor have we given enough thought to what life adjustment courses should include and how they might be applied to secondary education. There are many, many other barriers. But since less than 20% of our high school students are going on to college and less than 15% will be trained vocationally to accept a job, our interest and attention should focus on this large majority group regardless of the barriers.

Until we do something more than just discuss the situation as it now exists in the majority of our general education programs this majority will continue to be neglected. We realize that many academic high schools over the nation are now doing a fine job with this majority group. We are not condemning, but we would even like to commend those who have had the ingenuity and forthought to establish some practical education for those in

the group who are going to go to work without vocational training and who are not going to college. We will all admit, though, that even the best programs could be improved.

The Role of Practical Arts

Regardless of occupation or position in life every American citizen needs to know many things about industry because we are all consumers of industrial products and we are called upon frequently to pass judgment upon matters pertaining to industry and to comply with various industrial regulations. Some knowledge of the problems, practices and products of industry is therefore essentially a part of general education. Certainly one of the most important divisions of education in the training of youth for life adjustment is Industrial or Practical Arts Education. Experience has taught us that the most effective way of learning is by doing.

Industrial or Practical Arts activities not only get directly at the basic needs of youth, but they provide an almost unequalled opportunity for learning by and through doing. Opportunity for service to youth through Practical Arts can hardly be surpassed by any other field of education. The work experience appeals to youth and gives them an opportunity to work their hands and minds together. Those of you in the field of Industrial or Practical Arts should immediately analyze your programs in such a way as to determine just what you can do in this trend of Education for Life Adjustment. They should be carefully thought out and designated definitely with the objective clearly stated. As an example—you in the Industrial or Practical Arts field might feel that every youth who is properly adjusted to life should be able to do at least one thing well enough so that those services could be sold to an employer. After all most of the group you deal with will have to work at something. To make these youth employable their Industrial Arts Teachers might follow the following procedure.

Before we suggest this procedure we should all have in mind that we are considering Practical Arts in its broadest terms, including all subjects taught in high school in which a student could be taught to do a practical job. We would include typing, cooking, sewing, child care, business and industrial subjects.

Now for the procedure:

Supposing you have convinced your administrative staff that each and everyone of the youth in this 60% group should be enrolled in one of these so called Industrial or Practical Arts courses each year of their 3 years in a senior high school and that each year they should take a different Practical Arts subject. Could you as their Practical Arts instructor, job train each member of your class so that, at the end of a year of training of 5 days a week one hour a day, the student might be skilled enough to be able to sell his services in that particular field? At the end of the second year in another field and again another at the end of the third?

As an example a woodworking teacher might find that "John" likes to work on the circle saw more than any other machine in the shop, therefore he is given a great deal more experience using this machine than the other boys who are interested in other types of work. At the end of the year you, as John's instructor, will be able to

give him a recommendation to the local mill so that he might secure a job and earn a wage comparable to a semi-skilled laborer during the summer.

Now if this plan is carried out according to the previous agreement the next year he is not allowed to enroll in woodwork, but must take some other Practical Arts subject. It might be then that he desires to take Machine Shop Practice and there the Practical Arts man job trains him to operate a drill press or some other machine which John particularly likes. You can readily see that by the time he graduates from high school he will not only have a diploma saying that he is a high school graduate without any training in which he could earn a living, but he will have job training in three different fields; training which might even be enough to overcome the economic barrier and carry him on through college where at least he would not be an economic responsibility to his parents.

This, I think you will readily agree, would be a very fine contribution to life adjustment education for those youth who would participate in this kind of program.

There are many other definite contributions which could be made by Industrial Arts or Practical Arts teachers to a life adjustment education program. In one instance a group of industrial arts teachers made 29 different suggestions which they thought they could definitely contribute to this program. What can you do?

Since this program is in the field of general education, and practical arts is also in the field of general education, it becomes one of the large responsibilities of the Industrial and Practical Arts division of general education to immediately proceed in organizing a comprehensive program for this neglected group.

The Role of Vocational Education

In all of the conferences held for the promotion of Life Adjustment Education there has been equal representation of Vocational and General Educators. It has been difficult for the vocational education people to make direct contribution to the program of these particular youth. As has been stated, it is agreed that the people now best adjusted to life at the high school age are those who are prepared for and going on to college and those who are prepared for and are going into employment in the field in which they are prepared. Since the vocational people for more than 30 years have been preparing their students for employment, they have many experiences which should be offered as their contribution to the Life Adjustment Program.

The following services and experiences of vocational educators would make the greatest contribution and would be most useful to the administration, supervisory and instructional staff of the Life Adjustment Program.

First—their experience in making and using of job analyses.

Second—their help in making the subject matter fit life situations.

Third—their experience in the setting up and supervising of job training and terminal courses.

Fourth—their assistance in the analysis of community and student needs.

Fifth—their help in analyzing the cause of drop-outs.

Sixth—their assistance in the effective use of efficient tests.

Seventh — their promotion and assistance in field trips, both to business and industry.

Eighth—their analysis and help in making occupational studies.

Ninth—their supervision and participation in an employment program of placement and follow-up.

Tenth—their leadership in establishing better cooperation with the employment services, business and industry.

Eleventh—their help in correlating school programs based on community opportunities.

Twelfth—their assistance in setting up job training programs together with immediate needs of industry.

Thirteenth—their aid and assistance in promoting and selling the program to the administration and to the community.

Fourteenth—their knowledge and experience in the setting up and promotion of guidance programs.

Fifteenth—their help in planning and organizing advisory committees.

The time is here for definite action on the part of all school people to do their utmost in formulating a program for this neglected group.

Unless those of us in public education are willing to meet this challenge, we can expect that duplicate programs along the line of the NYA or the CCC will again rise to plague us.

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The Scope, Organization, *and* Principles *of* Training *in* Industry

By EARL G. PLANTY
Executive Counselor, Johnson & Johnson
AND
WILLIAM S. McCORD
Industrial Relations Director, Personal Products Corporation

ONE need not go back very far in the history of American industry to find the period when employees were referred to generally as "hands." This term, in itself, is a key to the concept of labor then prevailing. A company employed a number of "hands" to push brooms, pull levers, pound typewriters and perform the hundreds of other tasks that make up an industry. By degrees that concept has been changed. Today there are few organizations that do not recognize each employee as a whole person, a composite of hand and brain, of skills, knowledge, and attitudes. The "hand" concept has been replaced by the concept of the employee as a human being, a complex individual, living and working in the highly complex social situation which is modern business and industry.

The definition of training in industry grows out of and parallels these changing concepts of labor. In its origin, industrial training involved little more than the development of manual skills. By 1930, training in industry had been expanded somewhat beyond the narrow confines of the machine shop to include a wider vocational range. Such commercial skills as bookkeeping, stenography, retail selling, and commercial art were recognized as integral parts of the training job to be performed in many companies. The concept of trades was itself broadened to include literally hundreds of specific applications of the basic skills in such industries as printing, construction, shipbuilding, the manufacture of electrical equipment, machines and machine parts, and numerous others. Still, and in spite of this broadening of the field, the emphasis was primarily on hands.

Today, however, industrial training has a significance far beyond the development of manual skills. As it is conceived by progressive industries, industrial training now includes the preparation of each employee to take his place successfully in the industrial community of which he is an integral part. To this end, each individual must be led to recognize and develop his own peculiar talents. He must be given an understanding of the organization in which he lives and works. The aim of industrial training today is the continuous, systematic development among all levels of employees of that knowledge and those skills and attitudes which contribute to their welfare and that of the company.

What, specifically, does this mean?

It may mean training in anything from feminine hygiene and shorthand to the Quantum Theory and Sanskrit literature. It may be bracketed on one hand by crocheting and interior decorating and on the other by arc welding and comptometer operating. But whether the subject is contract bridge or suspension bridges, it is legitimately a part of industrial training *if it assists the individual in his adjustment to the industrial community and, consequently, makes him a better satisfied and more productive member of that community.*

It will be said that this is an extremely broad definition of industrial training. That is certainly true, for the scope of training is as broad as the need. No one familiar with present-day industry would hesitate to agree that the need is both broad and urgent. Modern industry is peopled with men and women who, for the most part, have left behind them or never entered upon the formal training of the school or the university. To one degree or another they have been educated and turned free to earn a living and make their way as citizens in a democratic society. By academic sanction, they are labelled engineers, doctors, lawyers, machinists, stenographers, pipe fitters, accountants or any one of a thousand other vocational specialists. Many others carry no specific tag; they are graduates from grammar schools, high schools, and colleges from Maine to California who have been prepared somewhat vaguely for business and industrial life.

These are the people who as laborers, skilled and semi-skilled operators, technicians and supervisors, daily enter industrial organizations. They must be prepared to adjust to the peculiar mores and methods of each organization. Their prior training must be adapted, modified, or supplemented to meet the specific needs of the industry employing them. They must be given the opportunity to expand their knowledge and skills to meet new situations. They must be aided toward an understanding of one another and an ability to work harmoniously together. By all means, they must be given the opportunity to develop a full understanding and appreciation of the political, social, and economic system in which they live and work.

Present school systems have neither the faculties nor the physical facilities to carry out this prodigious training job unassisted. A few modern industries have, therefore, assumed a large share of the responsibility for taking up the task of providing education where formal training normally leaves off. A majority of those who have not already done so are planning the venture or seeking men professionally prepared to undertake it.

Scope of Training In Business and Industry

That this broad concept of industrial training is neither exaggerated nor impractical is illustrated by the routine activities of industrial training departments all over the country. Today's roll call of American businesses and industries covering such varied fields as insurance, textiles, petroleum products, distilleries, electrical equipment, automobiles, public utilities, and pharmaceuticals yields the following comprehensive picture of present-day training. The full expense of these activities can best be realized if the scope is reviewed according to three

areas, the first of which has direct and immediate application to the job.

Into this category falls the traditional trade training of carpenters, pipe fitters, welders, electricians, machinists, automobile mechanics, tool and die-makers, upholsterers, printers, sheet metal workers, and the multitude of other skilled craftsmen. It includes unskilled and semi-skilled jobs which employ so large a proportion of industrial workers. It embraces also the many commercial skills such as typing, filing, shorthand, bookkeeping, accounting, and the operation of various business machines as these skills are applied in such functions of the total industrial operation as purchasing, traffic, shipping and receiving, production control, customer service, etc. Salesmenship, advertising, promotion, distribution, market research and the many technical and professional areas related to manufacturing, finance and research are other obvious aspects of this training which is aimed at preparation of the individual for the performance of his immediate job.

This is the "must" area of training. This knowledge and these skills must be imparted fully to each employee if he is to perform his job properly. Moreover, this training for the job is equally significant whether the employee is an unskilled laborer or a member of the board of directors.

A second area that goes to make up the extensive scope of industrial training today concerns itself with the development of the employee as an individual without reference to his job. It concerns itself with civic, social, or cultural growth. Here training includes such varied subjects as personal hygiene, home furnishing, budgeting, clothes design and selection, public speaking, art appreciation, modern languages, literature, music, folk dancing, needle arts, ceramics, dramatics, comparative religion, practical psychology, sociology, marriage relations, or political science. The objective of such training is the stimulation of the individual, through broadened interests and fuller understanding of his social, economic, and political environment, to more complete realization of his potentialities and, consequently, a richer and more satisfying life. Such established organizations as Forstman Woolens, General Motors, Standard Oil of New Jersey, International Business Machines, Metropolitan Life Insurance Company, Johnson & Johnson, Merck & Company, Chicopee Manufacturing Corporation, Western Electric, Packard Motor Car Company, Caterpillar Tractor Company, and the General Foods Corporation have pioneered in these fields.

Those businesses and industries which conceive of the employee as a whole man and recognize that they must concern themselves with his total development if he is to be a productive and a cooperative member of in-plant society are becoming especially active in this area of training.

Between these extremes there is a third general area which is more closely associated with the specific job than the purely cultural courses and yet is not job training as it is customarily defined. This area of training has as its objective the adjustment of the individual first of all to his own company and secondly to the economic and social system in which that company exists. Some aspects of this training are not particularly new. Instruction of employees in company his-

tory, practices, and policies has been customary with some concerns for several decades although it derived its greatest impetus from the influx into business and industry of many new workers during the war years. In addition, this type of training attempts to acquaint the employee with the full scope of his company's activities, examines the products manufactured or services rendered, explores their historical development and their future as projected by research and experimentation.

There is a significant trend at the moment toward the education of employees on all levels in the economics of business. Companies have taken their financial operations out of locked safes and from behind the closed doors of director's meeting rooms to discuss them fully and frankly with all employees. They have been doing this because they have been made shockingly aware of the ignorance and misconception that characterizes public opinion on such matters as profits and costs. They have done it also because they are conscious of serious threats to the confidence in our free enterprise system which is the keystone of every business and industry. This middle area of training deals also with such subjects as method improvement, time study, job evaluation, quality, personnel functions, and the many other facets of business administration which impinge upon and affect the employee's work although they are not a part of his particular job or department.

The scope of training in industry today is limited only by the often confusing, usually complex, and always abundant new and old skills, understandings and attitudes needed by *all* employees in their day-to-day work operations and contacts.

Functional Organizations

We may speak of the organization of industrial training from two points of view, first, the functional relationship of training to the various divisions of the business and, second, the arrangement of the content of the teaching matter of industrial training.

There are five organizational patterns current in American business and industry for doing industrial training. They vary according to who shares the major responsibility for initiating and doing the actual training. These five arrangements which show the relationship of training to line supervisors are as follows:

Pattern one: The supervisor trains without assistance

Pattern two: The supervisor's assistant does the training

Pattern three: The line supervisor does almost all the training, coached by staff training specialists

Pattern four: Most training is done by the staff assistants at the request of the line supervisor

Pattern five: Most of the training is done by the training department before the employee reports to the supervisor.

In the first pattern, we have the simplest system known for accomplishing training. In this plan the supervisors themselves are left to train their own employees without professional assistance. The department head is responsible for getting out the work and for all the acts that will help toward that end. Training being one of these acts, he is fully responsible for

initiating and doing whatever training there is. Although this is a rather primitive concept of training, it is still typical of most American business and industrial units.

In the second pattern, the supervisor assigns most of the training to one of his own assistants. This assistant may help with quality, with production, and with other areas in addition to training. Sometimes the line supervisor's assistant is taught how to teach and is otherwise given preparation for his training job. This preparation may be given by a staff training department within the business by a professional brought in from the outside, or by a nearby university. This plan is not very common although it is followed in a large electrical goods industry and in a large cable concern. Training under this plan is confined almost wholly to job, skill, or motor training.

Plan three is probably the most common in American industry and it certainly is the oldest and most traditional. According to this plan, the supervisor himself does the training, but he is coached and prepared for it by a professional training director or instructor. These training specialists, who constitute "the training department" teach the department head or unit supervisor how to teach; they help him to set up courses of study, observe his teaching and criticize his lectures, conferences and job training. According to this plan, the staff training department does very little teaching except for teacher training. To the degree that the staff training department is staffed with professional teachers and educators, and to the degree that the busy production and operating heads can be made interested in teaching and can learn to teach effectively it is an acceptable organization.

The fourth system for training is newer but is rapidly growing. It is followed only in those organizations that have a great deal of training. According to this plan, the professional training man does a large part of the instruction himself. It is true, however, that he does it only at the request of supervisors. It is thought that this plan results in cheaper, more effective training involving less waste of learning time, since most of the instruction is done by a professional teacher, trained and experienced in the best ways to stimulate learning.

Pattern number five is merely an extension of number four. According to this arrangement all training is done by the staff training department and in fact most of the requests for training are initiated by the staff department. Here the employee is pretty well trained even before he reports to the job. The personnel department which recruits the employees trains them. The plan is useful where a great deal of pre-service training is needed or where the supervisors are overworked and not interested in doing this training themselves.

The major differences between each of these plans is the degree to which the responsibility for initiating training and doing it is vested in the hands of the department head or supervisor. According to the first plan, full responsibility for seeing that training is accomplished and for actually doing it lies with the line supervision. In distinction to this, pattern five places almost all of the responsibility for seeing that training is accomplished as well as responsibility for doing it upon

a staff and service department. Plans one and two are usually found in small units unable to afford a full time training specialist. Plans two, three and four reveal a varying division of the responsibility for doing training.

Under patterns one and two, of course, the instructor or training director reports to the department head or line supervisor. In plans three, four and five training is usually a staff function reporting to the personnel or industrial relations director, where it can most easily serve all units of the organization—sales, office, legal, research and not only production.

Curriculum Organization

As said above, organization of training may mean the structural position of training or it may deal with the definition, boundaries and content of the areas that go to make up the teaching content, the curriculum.

Some titles and arrangements of subject matter derive their nomenclature and identification from the positions the trainees hold or are likely to hold, as for example: office training, apprentice training, sales training, supervisor training, and executive training. Other systems use a nomenclature which more fully describes what is being taught with less emphasis upon who is being trained; they cut across organization levels and may cover everyone from president to first line employee. Training courses named or identified under this system include orientation training; job, skill or motor training; human relations training, general education; and technical and professional training. Described more fully these are as follows:

Orientation Training—this is the planned and guided adjustment of the employee to his job, his employer and his associates. It is for *all* employees, new and old, at all levels in the organization, from elevator operator to vice president. Because changes are constant in business and industry it is continuous and never complete.

Job, Skill or Motor Training—this is training for the trades, and for semi-skilled or unskilled operations. It ranges from lifting training given the freight handler, to instruction in typing or carpentry. It includes apprentice training, vestibule training, on-the-job and classroom teaching. It is unfortunately concerned almost exclusively with the development of motor skill; the creation of social skills and attitudes is left to other areas of curriculum. The two can best be developed together, however, and progressive companies are now building the will to work as they create the skill.

Human Relations Training—this type of training has traditionally been given to supervisors, executives and technical and staff men. It is being extended now to secretaries, waitresses, machine operators, skilled tradesmen, and other rank and file employees. It includes practice, through such devices as role-playing, in reprimanding, merit rating, counselling, grievance handling; and theoretical instruction on the place of labor in industry, psychological self-analysis, the basic human needs and wants, the dynamic structure of society and even in semantics. It aims to make people better able to understand themselves and others and, consequently, to make them more sympathetic and cooperative. On the management level its objective is the development of supervisors who can carry out their administrative functions

with fullest satisfaction to the company employing them, to their subordinates, to themselves, and to the community at large.

General Education—this area deals with understandings, breadth of vision and attitudes necessary to good performance, self-development and the employee's relations to the rest of the world. It provides the attitudes and habits that encourage good citizenship in the plant and in the community. Its subject matter may include the labor movement, business economics, free enterprise, service capitalism, the rights of individuals in a democracy; art, music, handicrafts; travel, geography, nature; citizenship, welfare, and social organization and dis-organization. It is justified by the fact that man works better at any isolated, specific job when he knows all the conditions, facts and forces surrounding that job. It is required for all levels of employees in business today.

Technical and Professional Training—this training varies from the high degree of specialization required in engineering, medicine and agronomy to the more limited technical skill required of an employment manager, commercial artist, draftsman or practical nurse. Since supervision is now recognized as a profession in itself, this area of training deals also with the development of administrative knowledge and skills. Frequently such training is sponsored by an industry in cooperation with a state or private college or university. Sometimes it is initial training; frequently it is of the refresher or up-grading type for persons already employed and initially trained.

The Principles of Industrial Training

The extensive programs sketched in the first part of this article and the curriculum outlined organizationally in the second part can be effected best if a few simple principles[1] are followed in setting up and conducting the training. Stated briefly they are:

(1) Any program of training rests upon the assumption that planned, organized teaching is more profitable for management, and results in greater satisfaction and advancement for the employee, than does the alternative method of turning the worker loose to learn through his own unguided experience.

(2) Training is needed on all levels of commerce and industry. If business expects workers to learn about management and its problems as well as about themselves, both technicians and top management are obligated to learn the facts about workers and their ways. In the future, a knowledge of the business must include a knowledge of the personnel through whom it operates, as well as of those who direct its course. Management, if it is to satisfy the employee as an individual —which it must eventually do, for people already are refusing to support any system that is unsatisfactory to them—must learn more about him as a person; about his social and psychological as well as his economic needs. It must learn how to run its affairs so as to help satisfy his deep-seated requirements. For these new tasks, management also stands in urgent need of training.

(3) Training must be continuous. Even the best of men do not learn a thing and forever after practice it.

1 These principles are abridged from *Training Employees & Managers for Production and Teamwork*, Planty, McCord and Efferson, Ronald Press, 1948, pp. 266-268.

Forgetting goes on apace, and refresher training of some sort is always in order. Moreover, business is a dynamic system in which change is the one element that endures from year to year. As a result, new and different needs for training arise without interruption.

(4) Of the three areas of training —skill, knowledge, and attitudes—the latter has been most neglected, is most difficult, and now demands most attention. To be effective under modern conditions, training must deal with employee knowledge and attitudes as fully and effectively as it does with skill. Good attitudes in commerce and industry are partly the result of training concerning the policies, functions, and problems of supervision and high-level management. Good management in turn promotes good attitudes. Training programs that are designed to provide full information and an opportunity for discussion, programs that encourage suggestions and present current problems for employee solution, will surely help to develop fair, constructive attitudes profitable to both labor and management. Training therefore must provide the information that will motivate people, stimulate them, and advance them toward full self-realization. American business has led the world in developing materials, methods, and machines. It must now give attention to the social and emotional development of men and women, in order that they may function as understanding partners in business and in democracy, and never as skilled automatons.

(5) There are no easy roads to success in commercial and industrial training. No simple formulas, no occasional shots in the arm, no packages of ten easy lessons alone will do the job. Since people are not machines, their responses depend on the social context of the situation. Since they are complex organisms whose actions and attitudes are not easily predictable, no simple rule and no single training program will apply equally to everyone. To be most effective, training must be prepared originally for a particular group and must be constantly adapted, even while it is in progress, to their changing needs. Good training also includes a wide variety of activities and many approaches—formal classes and informal or even casual contacts; the written and the spoken word; discussions, lectures, demonstrations, films, charts, exhibits, tours, and all the other varieties of approach which an alert training man can conceive. There is no single, simple, easy approach.

(6) Because there are no short cuts and no commercial devices appropriate for doing the full job, training must be professionalized; this means that training must be directed by persons especially prepared for this work. Changing human habits, which is the objective of training, is a very difficult task—one that is the special function of the professional educators, not that of an engineer or accountant.

(7) Training, like any new service, requires full and persistent support from management if it is to succeed. Lack of time, indifference, self-satisfaction, and the strength of established habits combine to make it most difficult to enlist employees in programs designed to change, even in small degree, the established patterns of their lives. So great is this resistance to change among adults that any training program must devote a sub-

stantial part of its approach to overcoming initial barriers. The time demanded will be minimized, however, if management demonstrates its support by attending classes and by helping to secure acceptance of the theories and practices taught by the specialists in training. It also is necessary for management to provide comfortable physical surroundings, and to give the training director a rank within the organization which will enable him to establish and maintain status among other executives with whom he must work.

(8) Specific skills and general attitudes are inseparably related in the daily actions of men. A training program to be successful must recognize this unity of skill and attitude.

Conclusion

The current expansion of training activities throughout America traces largely to the fact that the professional training man and the modern executive have seen the need for broadening the aims of training. The narrow concentration on the physical and motor aspects of the job, as reflected in the first statement below, has been broadened to include those understandings and attitudes necessary to develop *the will to work as well as the skill.* Modern industrial training aims to render four major services:

First, training can help people to perform the work normally expected of them. It can do so in offices, store, or plant, and at managerial and technical levels as well as on the production line.

Second, training can help people to understand business, production, and management so that they may become enlightened participants, or at least understanding cooperators, in helping to meet the worthy goals of their employers.

Third, training can help management to understand employees and thereby satisfy those social and emotional needs upon which co-operation and teamwork depend.

Fourth, training can contribute to the growth and well-being of the individual on his job and also as a member of his community and his nation.

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Area Vocational Schools *and* Post High School Vocational Education

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AREA vocational school programs, on the one hand, and vocational education on the post-high school level, on the other, are sometimes assumed to be one and the same thing. In practice, to some extent, they have been.

In truth, however, the disposition to regard vocational education as a purely post graduate matter and to channel its development accordingly, has been the exclusive practice of a sectarian group in education, whose attitudes are, to say the least, rather dated.

Both justice and wisdom would be foresaken if we were not to abandon the outmoded notion, based upon a threadbare traditionalism, that the development of area vocational schools must rest solely upon a post-high school foundation. It is our purpose herein to develop the theory that area vocational schools are needed on *both* the high school and post-high school levels.

Problems

Vocational offerings through larger school administrative units are being considered throughout the United States in many different ways. Although the movement to solve the problem of equal educational opportunity through an expanding program of vocational education is being considered in each state separately, there are some related problems which appear to be constant factors and which appear to be shared in common by all localities.

One of these problems that often necessitates the establishment of an area vocational school program on the post-high school level stems from the reluctance on the part of many school people to release their students to another school. This hesitancy to release students although they might be more adequately served according to their interest, aptitude and ability is based on sectarian thinking and a rather narrow conception as to what constitutes broad educational opportunity. Some school men assume that their particular school, regardless of the narrowness of its curriculum, is the only place in which the students of their district should receive their secondary schooling. They assume that because the offerings of their school is similar to that of the vast majority of schools in their state or in the United States they are providing equal educational opportunity.

Equal opportunity for education has been too narrowly interpreted to mean opportunity for the same education. Often the same opportunity does not serve the immediate or future needs of our youth. There has been a growing recognition of the fact that equal opportunity should mean free

access to a program suited to the abilities, needs, and purposes of the individual.

If youth is to have free access to broadened educational opportunity he cannot be handicapped by the narrow educational philosophy of some educators whose influence prevents high school students from achieving their goals in another school where broader educational offerings are available. It is this fact that makes it necessary to place vocational offerings on the post-high school level in some areas.

While vocational education on the post-high school level has its advantages for some youth, for others it puts it beyond their reach. According to Oakley Furney, former Assistant Commissioner for Vocational Education in New York State, more than 60 per cent of the young people who entered high school between the years 1933 and 1943 in New York State, dropped out before graduation. There can be no question but that most of these young people had to go to work. Some type of vocational training, no doubt, would have helped them immeasurably in their adjustment to work. For these young people vocational education on the post-high school level was beyond reach.

If the other side of the picture is examined in the great industrial State of New York, we find that the vocational offerings in the state were primarily centered in its two largest cities of New York and Buffalo. During the period of 1933 to 1940, approximately 94 per cent of all the vocational courses in the state were offered in New York and Buffalo. What about the greater number of youth living in up-state New York who did not have the benefit of broad educational programs through vocational education?

Therefore, it would seem that in discussing area vocational school programs, we must not only consider those programs which are deemed necessary on the post-high school level but also those designed to serve youth who might have to drop out of high school before graduation.

There are four basic patterns which are followed in establishing area vocational schools. Variations of the fundamental patterns are frequent but in general it can be said that the four major types are these:

1. A County Vocational School where the school is administered by a county board and for residents of the county.
2. A vocational school operated cooperatively by two or more districts. This type of school cuts across county boundaries.
3. A vocational school supplying an extension of the offerings of a school district to serve a wider area and a larger number of students.
4. A state area vocational school operated by the state on the post-high school level.

The County Vocational School

The Essex County Vocational Schools of New Jersey stand out as a good example of a county system of area vocational school program. The Essex County Vocational Schools were first established in 1915 and restablished in 1923 under amended state legislation. Since that time Essex County has assumed a position of leadership in this type of area vocational school organization. More recently the neighboring county of Bergen has organized, according to New Jersey

School law, its Board of Education of the Vocational Schools and is presently operating vocational courses for the youth of the county.

In the Essex County Vocational Schools, courses are offered in the technical field, skilled trade fields and semi-skilled field. These courses functioning at the different levels of skills needed are serving a large group of youth and adults in the county. The types of training offered enter around regular day courses, special intensive day courses, apprentice courses, continuation classes, cooperative high school courses and evening classes.

The Essex County Vocational Schools are located at four different sites in three different municipalities and students are drawn from 22 municipalities which are organized into 20 school districts.

It can be seen readily that the Essex County Vocational Schools are serving the county or area through trade preparatory, trade extension and other types of vocational courses in various vocational fields. Further, the students in both the day and evening courses are being drawn from the entire area and as a consequence are participating in the benefits of broader educational opportunity through vocational education.

Another example of an area vocational school program operating on a county basis can be found in the case of the Palm Beach County, Florida Vocational Technical School which serves in the area of vocational education as a part of the local high school. This school is open to all residents of the county and offers eleven courses in aircraft mechanics, aircraft engine mechanics, electricity and radio repair, automobile engine mechanics, boat-building, welding, machine shop, sheet metal, printing, beauty culture and commercial work. High school students, adults and veterans may enroll in most of these courses on a time basis in accord with their needs.

New York State Law provides for the establishment of vocational education programs on a county basis through Vocational and Extension Education Boards appointed by the County Board of Supervisors. These Vocational and Extension Education Boards can hire teachers for vocational education and guidance and then contract for part of the cost of their services with the cooperating school districts who use the teachers. The teachers can be assigned to one particular school on a full-time basis or serve as itinerant teachers working in various school districts as assigned. Federal Aid and special state aid allotments are available to organized Vocational and Extension Education Boards beyond the state aid that the individual district receives on the basis of average daily attendance of pupils.

Presently, the best example of a Vocational and Extension Education Board operating in a county and offering broad vocational offerings as a result can be found in Rockland County, New York. This successful program is offering 13 different vocational courses in five communities. In each one of these communities the facilities for the offering of the vocational courses are provided by the school district in cooperation with the Vocational and Extension Education Board. The teachers are employed by the board and assigned to the particular school either full-time or part-time on an itinerant basis and the courses are open to all the students of the

county regardless of where they live. Through special transportation quotas of state aid, transportation is provided for those students that need it.

Cooperating School Districts

Fine examples of progress in education can be found in those sections where adjacent districts have banded together to offer vocational programs which none, individually, could afford to do. It is this sort of cooperation and mutual service which is so heartening as we consider the future of vocational education.

The State of Virginia is operating a number of regional vocational schools and some of these are operated jointly by the County School Boards for the State Board of Education. At Abingdon, Washington County, Virginia, a regional vocational school is being operated which is open to the juniors and seniors of the twelve high schools in that county, and the high school students in surrounding counties. Students from surrounding counties are transported in buses, and the county from which they are transported pays Washington County tuition covering the local share of the cost of operating the school. The State reimburses Washington County for two-thirds of the cost of instruction. The county pays for all other costs.

The Abingdon, Washington County, Virginia, regional vocational school might well serve as an example of an area vocational school run on a county basis but serving the area as well as the particular county in which it is located. To a degree, it is also a state area vocational school because of the amount of money received from the state for instructional purposes.

Recent legislation in New York State provided for the establishment of Intermediate School Districts. This development represents another possible cooperative enterprise through which a number of school districts can band together in order to provide broader educational offerings. Primarily in the case of vocational education, the intermediate school district provides the same privileges available under the Vocational and Extension Education Boards except that the program can be carried beyond county lines. School districts in a number of neighboring counties can participate in a program of this sort. Again, special state aid is available for this type of educational enterprise.

The law providing this privilege of cooperation between districts is so recent that it is impossible to cite a particular operating program. However, based on the study put into the project, before the writing and passing of the law establishing Intermediate School Districts, it appears that these districts will do much for broadening educational opportunity.

The State of Utah has approached the problem of providing some educational opportunity through vocational education by the establishment of two area vocational schools. The Central Utah Vocational School located at Provo serves the vocational training needs of Utah, Wasatch, Juab and Millard Counties in cooperation with the local school districts. The school first came into existence in September 1941 as an outgrowth of the war production training program. By the end of the war the value of the school to the area it serves was well established. This fact was recognized by the State Legislature and an appropriation was

made to operate it as a state institution under the control of the State Board of Vocational Education. The school was made a permanent state institution by the 1947 legislature. Presently the school is offering vocational and technical training on the high school, post-high school, and adult level, through day and evening school courses. Students are drawn from the entire area with bus transportation being furnished for some. The school is open to any resident of the State of Utah.

To the north of Provo, in Salt Lake City, is found the second Utah area vocational school. The Salt Lake Area Vocational School was created by an act of the 1947 State Legislature. This school is now operating in various fields of vocational and technical education.

Pre-employment, apprentice training and trade extension courses are offered to the youth and adults of the area through day and evening school courses. The organization of the school effected a co-ordination and consolidation of vocational interests and activities among the several school districts in and around Salt Lake City. It is expected that the bulk of the enrollment will come from the area of the participating school districts. However, students from the entire state may enroll. Due to its central location in the area, the transportation problem is partially solved through existing bus routes.

Utah has taken a long step forward through the creation of two area vocational schools in the most populous section of the state where, within the past decade, many new industrial plants have sprung up. No doubt these area vocational schools will do a great deal to assist this industrial development through serving the people of the area by providing the opportunity for broad vocational training.

Georgia has approached the matter of establishing area vocational school programs in the state by designating local units as agencies for operating such school programs. In accord with the special law passed in 1943, the State Board of Education may approve the applications of local school units in the state who desire to offer vocational education on an area basis. With this approval and the meeting of certain standards to be followed in the offering of an area vocational school program, The State Board of Education is empowered to distribute certain funds, both state and federal, set aside for this purpose. These funds not only cover such items as salaries, supplies, equipment and the like, but also transportation costs as well.

In 1945 the General Assembly of Georgia passed an area school law which empowers the State Board of Education to set up, locate, maintain and operate Area Trade Vocational and Industrial Schools. These schools are wholly state operated and, with the area vocational schools under local school units, Georgia has the means of providing vocational education programs throughout the state.

Local School Extensions

A third means of providing area vocational school offerings is through a local school district extending its offerings in vocational education to the area and the students residing in it. Usually this sort of program is wholly on an individual school district basis and at the pleasure of a particular school district. In New York State, additional

state aid is made available to the school district above average daily attendance allotments and in the form of non-resident tuition. However this non-resident tuition is collectable only in the case of high school students. Post-high school students have to pay their own tuition. Federal aid is also available to area vocational schools operated by individual school districts.

Presently in New York State there can be found two school districts in the western part of the state that are operating their vocational programs on an area serving basis. The Barker Central School has opened its vocational offerings to non-resident students from out of the district and also provides resident accommodations in its resident center for youth who attend the school and find it impossible to commute every day from their homes.

A second example of a local school district serving the area through its vocational offerings is found in the Batavia Metal Trades Vocational School. This school serves youth in the western part of New York State who reside in a four-county area of Erie, Genesee, Orleans and Wyoming Counties. Most of the youth attending this school come from within a commuting distance of 35 miles.

A Post-High School Program

New York State has recently embarked upon a program of post-high school vocational training that gives great promise. Within the past few years, five Institutes of Applied Arts and Sciences have been organized and are now functioning in New York City, White Plains, Utica, Binghamton and Buffalo. These schools are organized to offer vocational-technical education on the post-high school level through two-year terminal courses. Some of the courses offered in the various centers are Mechanical Technology, Chemical Technology, Electrical Technology, Dental Hygiene and various others. The Institutes of Applied Arts and Sciences are operated as area schools designed to serve a certain section of the state. However, the courses are open to all residents of the state regardless of where they reside and to non-resident tuition paying students.

Prior to the establishment of the New York State Institutes of Applied Arts and Sciences, the State Schools of Agriculture expanded their offerings to not only include vocational agriculture courses but vocational and technical courses as well. These schools are also operated on the post-high school level offering two-year terminal courses and open to all New York State residents. Thus New York State has provided for vocational and technical education on the *post-high school* level through a system of state supported schools.

If space were available, many more examples of area vocational school programs operating in the various states of the United States might well be given.

Planning Considerations

Certain conclusions concerning area vocational school programs on both the high school and post-high school level can be arrived at on the basis of existing data. These are:

1. Wherever vocational schools are to be established there should be a state plan in which the various areas to be served are defined as a geographic area of the state. These areas should be studied in accord with their

geographic aspects as they pertain to:

a. Contour of the land.

b. Location in the area in relation to existing and contemplated transportation facilities.

c. Confining factors of areas, e.g., other area schools, state lines, bodies of water.

d. Socio-economic aspects of areas, e.g., centers of trade, transportation, population, manufacturing, amusement, etc.

2. The state plan should provide adequately for financial support with which to establish the area vocational schools and to maintain them. Money for the establishment and maintenance of area vocational school programs is generally obtained from five different sources. These are federal aid, state aid, local aid, individual and group gifts and student fees such as tuition fees and the like. The state plan should define the proportion of these to be used in each area vocational school.

3. Adequate provisions should be made for the conducting of occupational and educational surveys in the geographic areas defined in the state plan. This is necessary so as to gear the training of the area vocational school program to job needs and to avoid a duplication or over-lapping in vocational training in the area. All the educational facilities of the area must be considered in terms of the area program of vocational training.

4. Finally, any state plan for area vocational school programs must give consideration to three problems, namely:

a. Administrative plan for area vocational school programs.

b. Guidance, placement and follow-up in area vocational school programs.

c. Physical facilities needed for area vocational school programs.

These are primarily the main problems of area vocational school programs to be considered with the type and amount of training that should be offered in each school. All of these factors cited must be interpreted in terms of individual needs for vocational education and jobs.

The problem of providing equal educational opportunity through broadened vocational offerings by means of area vocational school programs is one that will require continued study by vocational educators for many years to come.

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What Is Happening *to* Apprenticeship?

By PAUL BERGEVIN

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APPRENTICESHIP is one of the oldest forms of organized education. It has an honorable educational history which extends some 4,000 years. It has been able to adapt itself to changing conditions in an admirable manner. That is why it has lived.

Modern apprenticeship has emerged as one of the leaders in the field of education. This is because it has been recognized as a highly satisfactory method of doing a particular job, and further because resourceful individuals in the schools and colleges, in industry and labor, have constantly improved on the techniques of the basic structure.

This article is designed to examine some things that have happened in the general area of apprenticeship in the past ten or twenty years—trends that are for the most part readily recognizable and important.

Improved Social Status

The apprenticeship idea would quite naturally appeal to a country which is vigorous, comparatively new, and interested in technical progress. For the most part America qualifies in these three attributes. Apprenticeship in this country began before the founding of the republic and has had a steady and fairly substantial record of progress over the past 150 years.

Early American apprenticeship was a result of its English ancestry. The learning-by-doing idea was readily accepted here when there were things to be done which required the talents of the skilled craftsman. Homes needed to be built, industry started and developed, and agriculture fostered. It is interesting to note that in America, as elsewhere, learning-by-doing was associated with work. The Grecian idea of 2200 years before persisted—that labor of any sort was undignified; consequently only the poor or those who were thought to be unqualified by birth found an opportunity for education through apprenticeship. This idea of the lack of the dignity of labor was not a characteristic trend throughout history. The Jews were much concerned with apprenticeship as a device to further learning, build good citizens, and get things accomplished. The Greek idea, particularly the ideas of Aristotle, promoted the fallacious doctrine that labor was undignified and suited to a class below the social and intellectual scale of the thinker. This idea held firm for nearly 2000 years. Apprenticeship then, which involves work as well as theory, did not fare too well as a social mechanism.

New countries must be doers and thinkers if they are to survive. Consequently, apprenticeship in America

began to take on the garment of respectability early in our history. There were, and still are, a few individuals who cling to the idea that the good life presupposes a thorough grounding in the classics and languages, and that any departure from that pattern marks the individual or the social as unlearned. For the most part, however, the tendency is for Americans to recognize the value of a carefully balanced education which involves the best in both general and vocational education. Apprenticeship thrives best in that atmosphere.

Apprenticeship has been gradually coming into its own as an honorable and useful educational device in the eyes of society. The public school has begun to accept its share of responsibility for the conduct of good apprentice programs.

The social stigma of the past has more significance than may appear on casual examination. It seems to be the desire of most persons "to be something," and that "something" is more than likely dictated by the age in which they live, the people with whom they associate, and their environment.

Apprenticeship has become more acceptable because of better wages and working conditions as well as the fact that it has taken on a form of respectability due to the fact that the general social pattern is adjusting itself to the age of engineering and science. Better quality students have been attracted to the field of apprentice education.

In the present American educational pattern there are many ways open to the ambitious student. If comparison were made with the early opportunities for education of young men it would be discovered that there are vastly greater present-day chances of entering into occupations which meet the students mental and physical capabilities than there were several decades ago. The intelligent young man has a wide range of choice. Apprenticeship is only one of the many fields open to him. To attract the quality of young men who will be a credit to their craft and their community is probably less difficult today where the apprentice program is well organized than it was in the past. Confronted with the opportunity for a college education many young men, capable of college work, have chosen apprenticeship.

This trend is significant. To a certain degree it testifies to the quality of modern apprenticeship in that it meets to an acceptable extent the social, financial, and intellectual requirements of the future craftsmen.

Research

Another important trend in modern apprenticeship is the work that is being done by many public schools, colleges, labor unions, and manufacturing industries in developing new and better ways of conducting apprentice education. Students are being carefully selected by techniques far superior to the "cut and try" methods of the past. Courses of study are skilfully organized to do the particular job that they purport to do. The entire program is being constantly evaluated and often adjusted to equip it better to do the task it is designed to do.

Teachers and supervisors of apprentice education are being selected for the most part with care, and then are trained to do their work in the highly specialized field of apprentice education. As a matter of fact, good teach-

ing and supervision of apprenticeship in the modern sense is in many instances an innovation. Not too many years ago the apprentice was taught largely what he could pick up as he went along in his course. Teaching the trade as we know it now was done so informally that in many instances it was done scarcely at all. Repercussions were felt throughout labor organizations, industries, and by the apprentices as well as society itself, because of poor teaching. The poorly trained craftsman was a liability to all concerned, including himself. Today, as a result of considerable research and the exchange of information obtained, there exist better teachers and better supervisors of apprenticeship education.

Careful supervision of apprenticeship is the result of studies which have been made; studies which point to the striking advantages of developing and maintaining a careful plan throughout the apprentice program. Supervision is charged with this general responsibility. It has been discovered that, regardless of how good the apprentice program may be planned, unless it is carefully and consistently executed it will not progress. This is the job of supervision.

Modern research in apprentice and industrial education has resulted in the development of better devices for the proper selection of candidates for apprenticeship. Tests and interviews are being used intelligently in successful apprentice programs to bring the apprentice and the job into a degree of relationship which was difficult to achieve under the hit and miss system.

Another encouraging sign in the fostering of better apprenticeship is the developing of new teaching materials. Careful studies have been and are being made to evaluate the needs of the particular crafts and to align the course of instruction of the apprentice with those needs. It is obvious that the proper development and organization of course materials has resulted in better training in trade techniques. The modern apprentice is able to acquire a broader and more thorough working knowledge of his trade in the allotted time than his predecessor.

It has been rightfully stated that any endeavor will eventually dry up if there is not considerable attention paid to new and better methods of operation. Apprenticeship education is no exception. Modern research studies in apprenticeship have been fruitful in pointing the way toward better teachers, improved methods and materials, more intelligent supervision, and the selection of better qualified candidates for apprenticeship education.

Responsibility Assumed

A noticeable trend of great significance to the welfare of apprenticeship has been the increasing willingness of organizations to share with the schools the responsibility for training apprentices. In the past there was a decided tendency on the part of many employers of skilled labor to pick up craftsmen from any source obtainable rather than to train them. When only a few organizations did the training the burden was borne by those few and the non-training group took advantage of this training by attracting the skilled craftsmen who had been trained elsewhere. Then, too, many craftsmen in the past were not formally trained at all. These men "served their apprenticeship" by working with

a craftsman for a variable length of time, after which each would go on his own. Often the apprentice himself would determine when he had learned the trade. When he thought he knew enough he would migrate to another town and seek employment as a skilled worker.

Since the advent of a more formalized training program, the type of training just mentioned has gradually diminished. Undoubtedly modern industry, unions, and building contractors have found it to their advantage to do their own training, and thereby be sure of the quality of the training rather than depend on the former method where the apprentice picked it up as he went along. The "let-George-do-it" attitude in apprentice training is gradually disappearing.

The Place in Industrial Education

There is a definite and encouraging trend which indicates that the local public schools throughout this country are accepting their share of the responsibility for the training of apprentices. Along with industrial arts and industrial vocational education, apprenticeship has come into the school's picture as the third section of the industrial education program.

It is not the purpose of this article to discuss the relative merits of the public schools' giving apprentice training as against its being offered by the industry where the apprentice is employed. The purpose here is to observe the trends. Related instruction for apprentices given by the local public schools is becoming increasingly important.

Industry and labor have placed this responsibility on the schools in many places in this country. They are working with the schools on advisory committees to assure the apprentice that his training will be a properly balanced arrangement between the practical skill training he gets on the job and the related technical information he acquires in the school.

Some schools accepted apprenticeship as an integral part of their industrial education program many years ago. Others during the last few years have reluctantly given it a place in the program as a part of their patriotic duty to assist the veteran. Most schools now recognize the fact that a properly operated program of related apprentice instruction can be of great assistance to the schools, the industry, and the building trades. They have discovered a most fruitful source of information which not only assists them in apprenticeship, but keeps them up-to-date regarding the needs of all the people they serve. In many instances apprenticeship has been the prime mover to get the schools into contact with the community. Well-meaning citizens are anxious to help so that the schools in turn can help the community. Courses of study in industrial education have been adjusted and kept virile by the schools which keep in constant touch with people actually on the job. Apprenticeship and industrial education as a whole have benefited immeasurably.

Some Random Thoughts *and* Questions *on* Industrial Teacher Education

By WILLIAM J. MICHEELS
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FOLLOWING a four-step formula is not enough. It's like the man who drove into a garage to have his car fixed. The motor was making a horrible sound.

The mechanic listened for a few moments, raised the hood, looked around and listened some more. He took a hammer from his tool kit and made several brisk taps somewhere on the motor. The peculiar sound stopped. The motor ran as good as new.

The customer asked the cost. "Five dollars and fifteen cents," replied the mechanic.

"What!" said the customer. "Why, that's an outrage. It's ridiculous. I could have made those taps as well as you. I refuse to pay the bill until you send me an itemized statement listing the exact charges."

The next day he received the following statement:

Raising Hood, hitting with hammer, lowering Hood	.15
Knowing what to do, how to hit, where to hit, when to hit	5.00
Total	$5.15

We have too many teachers who can do little more than hit with the hammer. They go through the motions of teaching but have no understanding of that what and how and where and when and why. They may know something about the mechanics of instruction, but they lack in creativeness—the art of teaching. They do not have a real understanding of what teaching is.

This is a reflection on their teacher-training. It is a problem that most of us have wondered about at one time or other—what is the real worth of our product? Of course we can cite examples of good teachers and we like to take some of the credit for their success. But what about the others?

The Importance of Attitude

The most important objective for any teacher education program is the development of a proper attitude toward teaching—an understanding of what a real teacher is or does. Too often we leave this to chance or conjecture. Our efforts are dissipated in the direction of so many steps for teaching this or the exact procedure for planning that. The human factor too often is missing from the formula, when in reality it should be included with at least a squared value.

Even the briefest "shot-in-the-arm" teacher-training should help the recipients begin to develop a proper set of values or beliefs upon which their teaching efforts will be based. The democratic process, patience, tolerance, being a good example, sympathy—these and other factors will enter

the picture. And one of the more important will be an awareness of the need for constant self-improvement.

Why don't we have a series of easy-to-read case histories of outstanding teachers in our field? Surely there are some. What is a better way of introducing newcomers to the thrills and compensations, the trials and tribulations of teaching?

Where should we get such statements? Why not go to the students —and who hasn't been a student of someone? Let's get some graduate students at work. At least a few of them could forget about a "scissors and paste" thesis and start after the problem. It would be research. It would be a contribution.

Understanding

"If the trainee hasn't learned, the instructor hasn't taught."

Countless foremen and other teachers have heard this maxim during their ten hours (or more) of instructor-training. Many have taken it away with them on a little card. The question is, has the thought permeated their instruction?

What would be your reaction to placing this statement before each group immediately after the introductory ceremonies are finished? Let them explore the idea. Let them try to develop "what a good teacher is." The objective would be to get down to cases, to bring forth experiences they all understand, to emphasize the attributes of a real teacher.

In a ten-hour program at least half the time might be spent in such an approach. With proper planning various techniques would be introduced, including the four steps, if that is necessary. (I would have a fifth step headed, "Summarize," but I'm not sure where it belongs.)

Then, instead of each person demonstrating before the entire group, why not have the class pair off, give their demonstration, then change the pairs. Say each demonstration takes one-half hour (one hour for the pair). By allocating four hours to this type of activity each person would have an opportunity to repeat his demonstration four times. This would leave an hour for the teacher-trainer to bring together loose ends, to emphasize the need for self-development, and to end on the theme of what a good teacher is.

There would be plenty of details to consider. It is not quite as simple as might appear at first glance. There would be need for careful planning. And the teacher trainer would have to be active.

Two questions arise. If first things should come first, should so much time be devoted to the development of what a good teacher is? And in this type of program is it better to have the trainee demonstrate four times to individuals rather than once to the whole group? As this is written I would answer yes to both questions.

This is not a plea to discard teaching techniques and devices. On the contrary, they are the working tools of the trade. They must be given a good edge. They must be kept sharp. But . . . they are still tools.

The point is: A four-step formula and our ten hour programs are not panaceas. I guess nobody has said this. But anyway, further development is in order. Minute scrutiny is called for. It is a natural for numerous researches. And of course these thoughts apply relatively to every teacher-training program, regardless of length.

Motivation

Teachers of industrial subjects are lucky. Manipulative activity is a natural in their field of work and activity is basic to the learning process.

But why do so many of them complain about the teaching of related information? Could it be that a lack of activity enters the picture somewhere? Perhaps we in teacher-training have not helped them develop an appreciation and understanding of the fact that "learning by doing" should permeate all instruction, not just the manipulative.

As far as that goes how much "learning-by-doing" do we have in our teacher training? Or, for that matter, how well do we put into practice any of the accepted principles of learning?

We talk about the importance of motivation, for example, but are the neophytes under our direction really motivated? We tell them *their* students should learn to work together; they should learn the democratic processes; they should learn tolerance; they should learn to solve problems. But do we give these future teachers an opportunity to do such things in our classes so they will have an example to follow when they have their own classes?

Group Activity

The term "group dynamics" has recently caught the fancy of many educational writers and research workers. A great deal of money and effort is being spent to explore the numerous possibilities inherent in group activities. It is a new science in the making. We hear from all sides that it is about time.

Does this have any implications for industrial teacher-trainers? Yes, plenty. Much of a teacher's time is spent in working with groups. There is still much to be learned in this direction. But let us take a little credit too. The effective foreman conference is an excellent example of group dynamics in action. Who pioneered in the use of the conference method as we know it today?

We can be proud it was people in industrial education. But let us not rest on our laurels. There is still much to be learned in using this technique with its numerous modifications. May our experts in this area continue to explore, investigate, analyze, synthesize and organize new developments in group activities.

The conference method need not be reserved for training foremen. Why doesn't it have a place in our regular college course activities? What would be wrong with having every freshman student learn how to lead a conference? Then, why couldn't our classes of 30 or 40 be broken up, with three or four conferences going on at the same time?

No, it would not be the same as the committee system that some teachers now use. It would be similar, but an improvement over most committees, because of more active guidance and direction. It would be like a three-ring circus in several ways, including the amount of preliminary planning that would be necessary. It ought to be worth a try. There ought to be all kinds of interesting possibilities and variations.

Teaching Aids

What about the Underwriter's knot? Hasn't that been a bit overworked? Or do we proceed on the theory that a

good device should be used without change *ad infinitum*? Or could it be that we have not been alert to the infinite number of other effective teaching aids waiting to be developed or adapted and put to use?

Some readers may not have been subjected to the Underwriter's knot which is used to illustrate, among other things, the fact that "telling isn't teaching." Perhaps the Windsor knot could be substituted. But then that would be some more of the same old thing.

Having the class tell you how to put on your coat is another old one. They still seem to enjoy that. Another favorite is the use of large and small circles to illustrate the idea of varying degrees of difficulty in the steps of an operation. I recently saw this pictured in a visual aids textbook as an excellent example of effective blackboard illustrations.

What do you use to illustrate and emphasize the importance of motivation, repetition, learning by doing and the many other points that a successful teacher must understand and be able to apply? Could we benefit from a national instructional aids workshop restricted to aids for teacher-training purposes? To be a bit facetious, it might be beneficial to have some teaching aids on teaching aids.

Do we need or could we use a testing commission on industrial teacher education? The National Association of Industrial Teacher Trainers has a Committee on Proficiency Testing. They have made a fine start on a significant problem. Should their scope be enlarged and their activities intensified?

I have a hunch that most industrial teacher trainers would welcome a series of suggestive test items and other measuring devices that would aid in evaluating achievement in their classes.

This could be done with proper organization and a bit of cooperation. Or is this one of those "eventually" things? Which raises the next question . . . well? Perhaps the why not now phrase is applicable to several of these thoughts.

Something to Think About

These few brief thoughts and questions are scattered and yet closely related. There has been no central theme, although one might now be broached in the form of a question. Have we realized the potential in a carefully planned, widespread, cooperative approach to the many basic problems that remain to be solved?

If each industrial teacher-trainer contributed just one *good* idea for a teaching aid, just one *good* test item, just one *good* anecdote on effective teaching, think of the collection we would have. Is it wrong to assume that each teacher trainer ought to have one of each?

Have these few thoughts and questions been too caustic? Do they overstate the case? We have much to point to with pride. Our Allens, Bonsers, Selvidges, Smiths and Prossers provide many examples for backslapping.

But when did a little soul-searching hurt anyone?

The Part-Time Co-operative Program *in* Industrial Education

By R. E. CAMMACK

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THE part time cooperative program of vocational education in the public high schools has great possibilities for real life adjustment education. Much thought and study have been given to the matter of making our system of public education more practical and workable in the lives of more of our boys and girls. The term "life adjustment education" has become quite popular indeed.

Would it not be well for the schools to change their slogan from "preparation for living" to "adjustment to living"? No successful way has yet been found to "prepare" people in advance for any condition. It is a relatively simple matter, however, to assist people in their adjustments to conditions. Life adjustment education can take place only to the extent that those being educated are placed in real life situations or that real life situations are brought to them. There is no satisfactory substitute for real experience as a means of teaching.

Learning takes place and becomes permanent to the extent that the learner needs, wants, and will use information to solve his own problems. The more immediate, real and important those problems are to the learner, the more readily will learning take place and the more lasting will be the learning that takes place. It has been demonstrated over and over again that people generally learn about ten per cent of what they hear, twenty per cent of what they see, fifty per cent of what they see demonstrated and ninety per cent of what they themselves actually apply in doing useful and productive work.

There is within every community practically all of the life problems which the majority of the boys and girls of those communities will ever face. Why not confront boys and girls with those problems and assist them in their proper adjustment to them? In some instances this can be best done by taking boys and girls to certain actual life situations and in others, by taking the situations to the students. Can we not teach boys and girls the things they need to know as they are introduced to these problems? Would not what we teach be more meaningful if taught this way?

Operation of the Program

The program of cooperative training in Industrial Education as discussed in this article is operated in light of, and according to, the implications of the above statements. Fifteen years of such experience confirms the belief in the practicality of such an approach to education. It is evident that the cooperative program in Industrial Education is based upon the above elements when one briefly re-

views the programs in operation. The following emphasizes the more significant characteristics in the operation and conduct of such a program.

1. Boys and girls who are more mature mentally, and are able to select intelligently an occupation by which they expect to earn a living, are admitted to the cooperative program. A trained person gives assistance to them in making such selection of an occupation. Applicants for admission are provided with all available occupational information. They are assisted in recording and evaluating their own interests, aptitudes and abilities. They are then assisted in matching their own interests, aptitudes and abilities with the demands and requirements of some suitable occupation.

2. Those admitted are then placed with a local business or industrial establishment as an employee in a learning status in the occupation chosen for a part of the day. An agreement is made as among the employer, the student, the parents and the school. The employer agrees to provide work experience and learning opportunities for the student. The exact jobs or work experiences are a part of the agreement. The employer agrees that the student will not be kept on one or a few jobs beyond a reasonable learning period. The wage to be paid is a part of the agreement.

3. Students attend school for a part of the day. Two periods of the school time are devoted to the study of the things they need to know in connection with the actual work they are doing in the establishment. The other two periods of school time are devoted to English and such subjects as social studies, mathematics, science, or other academic subjects which may be required for graduation or may best tie in with the occupation being pursued.

4. The work experience of the student is under the supervision and instruction of a competent worker in the occupation. The student is assisted by this competent worker in developing the habits, skills and techniques of his job. When necessary these competent workers are given brief training in the art of instructing others.

5. The two periods of related study of the student are spent in the study of such related information as he may need for a proper understanding of the methods, techniques, procedures, equipment and materials he uses in his work experience. This will embody all the mathematics, physics, chemistry, other sciences, civics, law or other subject matter which can be shown to have direct application to a specific job in the occupation.

6. Some of the two periods of related study are devoted to a better understanding by the student of his relations to other employees and to his employer. He also devotes some time to a study of his rights, duties and responsibilities as a worker as set forth in State and National laws.

7. The program of related instruction is coordinated and correlated with the student's work experiences from day to day through two or three visits each week by the class instructor to the student on the job. The class instructor is designated as the coordinator. These visits are for the purpose of determining the instructional needs of the student so that related study and instruction in the class will deal with that technical information the student needs, wants, and will apply to doing the work of his occupation at the time he needs it.

8. The supervision of, and instruction in, the program of related study

is done by a person who is a graduate of college and in addition has three years or more of actual work experience as a wage earner in a comparable trade or technical occupation. This person is designated as a coordinator. The instruction is on an individual basis of supervised and directed study and instruction.

9. The occupational course is developed by persons professionally trained in Trade and Industrial Education working with outstanding employees in each occupation as consultants. From such consultants it is determined (a) the things one must learn how to do in an occupation and (b) what one needs to know in order to do each thing most intelligently. From this information a course of study is developed such that each thing the student must do on the job becomes the center point of interest around which is built an assignment of certain technical knowledge needed.

10. The courses and instructional procedures are such that students may progress at whatever rates of speed their interests and abilities will permit. They are flexible to the extent that they are easily adaptable to the day to day work requirements of commercial and industrial establishments. Each experience on the job is a complete unit consisting of that to be learned on the job and that to be learned at school.

11. The instructional materials and methods are such that a person professionally trained in Trade and Industrial Education can do an effective job as instructor-supervisor-coordinator for a group of students each of whom may be pursuing the study of a different occupation. Such a group should not exceed twenty-five. The coordinator should have about half that number under his care in the classroom at any one time.

Advantages of Part Time Cooperative Training

The brief description of a vocational program in cooperative training as given above turns the spot light upon certain concrete advantages such a program offers.

1. The public schools utilize the shops, stores, and offices of the community for education and training purposes instead of investing millions of dollars for buildings and equipment.

2. The schools use the occupationally competent workers in the local communities as job instructors instead of having to compete with business and industry in hiring high salaried occupationally competent instructors.

3. The students trained in such a program are trained by an occupationally competent person on equipment and materials actually being used in business and industry.

4. Students are learning by doing the actual work of business and industry instead of doing pseudo work in a school shop. Furthermore, students are constantly applying new technical information learned to the actual work of the occupation.

5. Students are in actual life situations in which they gain experience and knowledge necessary to proper life adjustment.

6. Public schools can offer effective occupational education and training in a vast number of occupations which cannot be offered effectively in trade schools.

7. Public schools can offer effective occupational education and training in occupations which require only one or a very few additional trained people.

8. The schools can easily gear the numbers being trained in various occu-

pations to the actual needs for additional trained people.

9. The schools can serve one important need for life adjustment education of a greater number of boys and girls.

10. Students trained in such a program usually remain with the establishment where trained. They have "made connections" and are already adjusted to the occupation.

11. Students trained by this method are encouraged and assisted in learning to study on their own initiative. They are, therefore, more likely to continue to study when they leave school.

Requirements and Limitations

From what has been said thus far, one would judge that cooperative training is a very simple, easy matter. The principles upon which such training is based are simple indeed. The actual operation of an effective program of cooperative diversified occupations training is a very complicated, technical, and professional undertaking. It requires personnel who are thoroughly trained in the philosophy and principles of vocational education. It also requires personnel fully familiar with the techniques, methods, materials, and procedures which have been developed in connection with the program. It requires personnel imbued with the spirit of hard work and service.

The program as described and discussed above is the program that received its initial impetus in the Southern states in the early 1930's. Much thought, study, experimentation and observation have been done looking toward further refinement and improvement. The demands for expansion of this program are approximately twice that which can be financed at present. This fact alone is ample proof of the general acceptance and favorable reaction of the public toward cooperative training.

The Diversified Occupations program can serve a much greater part of high school youth than it is serving at present. There are certain definite limitations as to the extent it can serve, however. It can serve only those students who are more mature, sixteen years of age or over, and who are above the average in mental ability. It can serve only those students who desire to prepare for and enter those occupations found in or near the community which require a reasonable time to develop the skills and learn the technical knowledge needed. It can serve only those students for whom part time work experience (minimum of fifteen hours a week) can be provided by local establishments. It can serve only to the extent that employers of the community will accept the program as a program of education and training and not just work experience.

Reasons for Lag in Adopting Part-Time Co-op Training

There are certain reasons why a program so practical and sensible has been slow in being generally accepted.

1. Most people think of "school" and "education" as something which can take place only in a classroom with all the students interested in, being taught, and learning the same things at the same time and at the same rate.

2. People generally think of education as consisting of subject matter courses in which students are taught by a teacher who knows all the answers.

3. It has been particularly difficult for the general public to under-

stand how one person, even though college trained, can teach related information for several occupations in the same class at the same time. They fail to see that the coordinator only helps the student to master technical information while one who is occupationally competent is the job instructor for each student. They fail to see that application of technical knowledge by the student is done under the supervision and instruction of the occupationally competent job instructor.

The program of Diversified Occupations will serve communities of varying sizes and characteristics. Successful programs have been, and are now, operating in little towns of 2,500 population and in large cities of 450,000 population. Programs are successful in agricultural towns and in highly industrial cities.

No Conflict With Trade Schools

How does such a program compare with the program of trade school training? That is a question frequently raised. There are a few advantages of the trade school training plan over the cooperative training plan. On the other hand, the cooperative plan offers many, many advantages over the trade school. These are implied above. The question is not trade school training versus cooperative training. The program is trade school training and cooperative training working as a team to serve the boys and girls by assisting them in mastering the skills and knowledge which business and industry will buy at a fair price.

How do the programs of cooperative training and trade school training fit together? That question is raised frequently. There are certain occupations in which the demands for additional workers are large. Some of these can be taught with varying degrees of success in a trade school. It is in these occupational areas that trade schools can operate to advantage along with cooperative programs to serve the actual needs.

What groups should be served by the trade schools and what groups should be served by cooperative programs? It is, of course, quite apparent that the cooperative program will serve only those boys and girls who remain in school through the tenth grade and who will stay in school through grades eleven and twelve while taking cooperative training. Furthermore the cooperative program can serve only those boys and girls who live in or near urban centers. Occupational training possibilities are limited to such occupations as are being carried on successfully in the community. The trade school should serve primarily the rural boys and girls, those who leave school, rural or urban, early and urban boys and girls unable to find a suitable occupation locally.

How do the programs of cooperative training and trade school training fit into the program of apprentice training? There are no conflicts among these various programs. It is fully recognized by every one concerned that a finished product (journeyman) cannot be turned out from either a cooperative program or a trade school in two years. The program of apprentice training is looked upon as the final process through which students from cooperative programs and trade schools must go to become recognized journeymen. As compared with other apprentices it has been found that those from good cooperative programs and good trade schools make greater progress and better journeymen.

The Art *of* Instruction—*A* Lost Chord *in* Higher Education

By G. D. McGRATH
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University of Illinois

THERE has grown about us a well supported premise that the worst job of teaching is unquestionably in the area comprising tertiary education. The somber, somewhat tolerant countenance of the college student too often belies a feeling of frustration brought about by experiences gathered under a poor quality of instruction. Any person who will realistically evaluate the quality of instruction in colleges today will be confronted with a picture which is filled with academic anomaly.

A number of factors have contributed to the low calibre of instruction so prevalent in American colleges and universities today. Among them are many which are readily correctible through envisioned and fortitious leadership. It should not be axiomatic, as often believed, that those teaching on the higher levels of education are immune to suggestions for improving their instructional ability, even though some of them would have unalterable resistance to any encroachment on the plateau of educational tactics within their ambit. On the contrary, it has been noted under many circumstances that good teachers accept improved techniques with alacrity and complete amenity.

Some of the factors contributing to a poor quality of tertiary instruction follow:

1. Inadequate criteria for promotion in rank and pay have affected us tremendously. Too often, in institutions of higher learning, the meaningful criteria for promotions are professional writing and research. This places quality of instruction at an immediate disadvantage as best efforts are directed toward the areas yielding greater recognition.

2. The assumption has been made that a mastery of knowledge in a field implies ability to offer instruction in these or near-related areas. We have grown up believing quite generally that *anyone can teach if he knows what to teach.* If it is true that most teachers teach as they are taught then we are immediately guilty of multiplying our instructional sins inasmuch as many of our instructors were employed solely because they knew thoroughly the field of knowledge they were expected to teach. Consistent criticism has been built up indicating that to a high degree many of the most learned men in the field of content are themselves the poorest instructors.

3. We have tolerated an academic immunity to supervision and improvement programs for college instructors. Somewhere in the middle ages a belief developed that to be a professor in college represented a highest order of intelligence and it was unthinkable to question his method of instruction or

take steps toward the improvement of the quality of instruction. An important heritage of the early professor was his escape from supervision or any requirement to measure up to normal standards of excellence in instruction.

4. A buck passing procedure has covered up weaknesses of instruction. For the most part, whenever a student does poorly in a college class, two reasons are quickly submitted by the instructor; (1) selective devices did not keep the student out of college (2) the high school background was inadequate to pursue the course. In substance, these two arguments may have some merit, especially in certain courses. But we have long ago concluded that success in a college course is very little affected by the measure of competent mastery of subject matter in a corresponding high school course. The dilemma must then be put squarely at the doorstep of the college instructor to re-examine his presentation for possible weaknesses.

5. We have lost the zeal for personalized service to the student in tertiary education. Somehow, in the rapid increase of attendance in colleges we have developed a machine complex. While bursting at the seams and overtaxing our facilities in egregious manner, we have lost sight of the fact that college students are still individuals and hold in their thinking the normal expectation of some individualized treatment. In ever increasing manner, we tend to shove the hordes into the hopper and hope that the machine will not break down before the individuals are graduated. In such a system, the quality of instruction is of too little importance and each classroom methodically divests its human content to the next class in the stereotyped sequence.

6. Too many instructors are not fitted for, were never trained for, and still are not interested in instructional work. Unfortunately, it appears evident that offering instruction is considered by many as the lowest form of academic participation. Instructors are, in general conversation, quite apologetic in admitting that they teach. There is something more grandiose about activity other than instruction in connection with tertiary education. Far too many colleges instructors are not fitted through personality limitations for instruction and were never trained to offer instruction. Further, they hope and pray for the day when their duties will remove them from the stigma of instructional tasks in their orbit of assigned activity.

7. There is a serious essence of academic brigandry among college instructors. Free thinking is very little stimulated—in fact, it is often inhibted by the very authoritative nature of instructional conduct. The college teacher is often more anxious to impress his students with his competence in the field and the soundness of his prejudices than to stimulate growth and thinking in his students.

8. Academic hermitism has hampered improvement of instruction. The cloistered professor often refuses to think of himself as an agency of society. Sequestered by knowledge and tradition, he is merely interested in subject matter for its sake, with no responsibility for practical application to the needs of the world of today. He maneuvers adroitly to keep himself and his subject matter content removed by an impassable barrier

from contact with the social patterns influencing youth of today.

9. Research has been lethargic in setting a pace for improvement. It naturally follows that research on improved methodology for college teaching has had little consumer market and thus has been little projected. We do have many answers to instructional problems and we can certainly learn more of them rapidly with a little concerted effort.

10. We have committed instructional fratricide by eschewing methods referred to as "high school stuff." College instruction has been so anxious to be completely different as an experience than methods employed in high school levels that we have unnecessarily injured ourselves through trying to shun anything smacking of high school methodology. As a matter of fact, college instruction should differ from high school instruction only in degree and not in kind. Concerted efforts and research have shown the way on the high school level to a point where from many aspects the general quality of instruction on the high school level is far superior to that of college levels and we should have no qualms in accepting some of the same methodology wherever feasible.

Tertiary education is at a critical level in its development. We have had a golden opportunity to make our contributions significant in that we have had greater contact with the masses in this period of heavy enrollments. The low quality of instruction has engendered a definite acerbity for higher education in too high a percentage of our enrollees and will undoubtedly be felt in an adverse way for decades to come. We had better quit kidding ourselves and put a high premium on quality of instruction or be doomed to serve an elite class in intellectual servitude while the masses drift more and more away from us as a result of our own weaknesses. It is not too much to believe that we will need to set up in-service training and some type of supervisory assistance for the improvement of the calibre of instruction in colleges, or even require training in methods of instruction on the college level. These must be insisted upon to a degree necessary to make certain that the quality of college instruction becomes a fitting and effective climax to a long related series of educational experiences sought by and achieved by a high percentage of our total population. We have no alternative compatible with well seasoned judgement. Our course of action is dictated by the urgent necessity of encouraging and insisting on a better quality of instruction or face the inevitable danger facing the survival of tertiary education as a functional experience for the masses who could profit by a college education.

Adult Education *is* Thriving *in* Germany

By HANS HARTMANN*
Berlin, Germany

ADULT education in Germany is again in full swing. Berlin, with its four occupation powers, is a mirror of Germany as a whole. In default of a central government there is not now a central board of adult education in Germany. Each German country has its own methods and organizations. It would be impossible to give an exact example or present the number of courses or students or of the distribution, in percentages, of different professional groups among those participating. However, conditions in Berlin are characteristic and reflect general German conditions.

Berlin is divided into twenty district towns of unequal but not very different size. Six of them form the American sector of Berlin, four the British, two the French and eight the Russian. All these districts organized their official adult schools rather quickly after the war. They resumed the thread of the evening courses developed since 1919 and, on the whole, maintained under the Nazi regime, although there was a Nazi attempt to penetrate them with "Nazi spirit." The original plan for the work lasted a relatively long time: until the last teachers of an open and free mind were removed. The writer of these lines was removed "for political reasons" in 1938. He had decidedly and entirely refused to stand for the teaching of the Nazi concept of race.

Since Autumn 1947 there has been organized, besides the 20 district adult schools, one central adult school, which has shown itself to be indispensable for several reasons. The motivation given for it is rather informative and mediates a good idea of the most urgent problems of German adult education. We read in a declaration: "The circle of men who are interested in a special subject is too small at the single district adult schools for the achievement of successful courses. That is true for a lot of social, historical, economic and political subjects, but also for many special branches, for example in science, history of civilization, administration, education and so on. Projected courses were omitted, the concerned hearers were disappointed, the need for knowledge was unsatisfied. The central courses will collect all these people . . . But also people of the existing district courses will come there and gain a deeper understanding of some subjects."

To make our survey of adult education in Germany more comprehensive, let us examine the programs of four districts, two in the American sector

* A teacher, largely in the adult education movement, in Germany for the past quarter century, Dr. Hartmann was persecuted during the Hitler regime. This article was written in Berlin for EDUCATION.

(Zehlendorf and Schoeneberg, one in the British (Wilmersdorf) and one Russian (Pankow). At first glance we can see that there are no essential differences as to general organization. Subordination to the particular occupation power does not exist. On the contrary, all programs are based on the German adult schools of 1919. This style is very different from the British or the schools of Scandinavia. In England, adult schools are organized around a general annual subject for which a thorough handbook is published. Scandinavian adult education is offered in country retreat settlements, which number about 40 in Denmark, 60 in Sweden, and 33 (corresponding to the 33 original Norwegian tribes) in Norway. The visitors live there an average of half a year for their studies.

So, each country has its own style. Germany continues with evening courses, although attempts were made to organize country adult schools between 1919 and 1933 (but the Nazis brushed them aside). Since 1945 there has been, perhaps, a slight alteration from the usual in that we find in the programs relatively more single lectures and fewer courses than before 1933. This is because many persons have neither time nor capacity, both spiritually and bodily, to carry through a whole course of four, six, eight or even ten evenings in the trimester (each evening of one and one-half hours).

When we survey the programs of those 20 district and the one central adult school, we find that they are very similar in principal. Most of the work consists of courses or single evening lectures. In addition there are Sunday (or Saturday afternoon) excursions into the zoological or botanical gardens or into the surroundings of Berlin for botanical or geological purposes.

The subjects are divided into certain principal branches, although one district may prefer and therefore emphasize philosophy or psychology or other social subjects. But in each adult school we find many courses in the study of languages, chiefly English, but also French, Russian and many others. Technical or mathematical courses are popular among those who want to continue professional instruction. The programs sometimes contain a spiritual introduction. For instance, at Pankow there is one under the title, "Revolution of Humanity" or "Confession to Truth." In the last trimester of 1947 Pankow alone had 116 courses, in the first one of 1948 it had 150, Spandau 100, Reinickendorf (French sector) 122, Zehlendorf 70, all of Berlin 1,806 (last trimester of 1947).

It depends on chance whether a student gets in close touch with his teacher (or teachers), and then perhaps remains "faithful" to him for several years. So one of the 1,077 teachers can form his personal circle among the 38,360 visitors of the last trimester (Berlin has now about three million inhabitants).

On the whole the philosophy of adult education is based on humanity, reconciliation of peoples, formation of personality by art, literature, philosophy and religion. Dogmatic education for any religious or social standpoint does not occur (with very few exceptions, (as one course on Marxist tendencies in Pankow). That is the correct way. The hearers should form their outlook themselves. In one adult

school (Pankow) all leaders of the licensed parties speak at evening sessions (on different evenings) about the aims and tendencies of the particular party. The hateful activities of the parties are revealed entirely at those sessions.

Religion is quite popular as a subject. At Pankow two Protestant pastors are teachers, one of them had (or has) for his subject: "Christianity and Politics," "Kierkegaard," "The Religious Form of German Philosophical Idealism," or even a special subject like "The Consequences of the Thirty Years War with Regard to Godliness." That subject is rather rich with possibilities because all Germans feel that the world has been inflicted with a modern Thirty Years War (1914-1945). (We hope it was the last war of all!)

Medical questions are treated relatively seldom. An interesting subject is: "Healing by Musical Pedagogics," a subject about which many men at Berlin heard addresses by Prof. Van de Wal of the United States. Also questions like psycho-analysis are rarely treated. Some curious subjects are to be found, like "Adolf Hitler in the International Caricature."

The number of subjects offering knowledge of foreign countries is not small. We find courses about the contemporary American novel, fragments of French spiritual life or about realism in English literature. One makes all possible attempts to put an end to the poisoning of German mentality by national hate. In the adult school of Schoeneberg the interest in mathematical problems is particularly great, so that the courses there are systematically organized for all mathematical branches. Also in Schoeneberg a course for chess is organized. For the whole of Berlin the principal branches are divided up in the following percentage: social subjects 15%, science 13%, art 15%, practical (technical) courses 20%, German language 3.5%, foreign languages 33%. In these official figures it seems that philosophy is ranged under social, science, or art subjects.

Some more figures may round out the picture. The fee averages one mark for one evening lecture. For subscribers to the adult school they are one-half mark. Courses of six evenings are three or five marks. Courses offering continual professional instruction (therefore realizable into money later on) are 10 or 16 marks. Students who were victims of fascism and the socially less wealthy people always pay half or even nothing.

Adult education is developing well in Germany. In Pankow the number of visitors rose from 800 two years ago to 1,600 today. Courses are carried through generally with 10 but sometimes with only six or eight persons. Many courses attract 30, 40 and more hearers. Most people belong to the middle classes. The one pastor in Pankow says that he had some graduates or elder merchants among his hearers. The figures for all of Berlin show that 41.5% of all hearers had only elementary education, 15% intermediate school education, 33% secondary school, 4% university (or similar) and 6.5% professional instruction. From the social point of view there are 15.5% working men, 35.5% employed people, 4.5% free (mostly spiritual) professions, 3.5% tradesmen, 5.5% teachers, 24.5% students and pupils (a relatively high number as many of them like to strengthen

the relationship with their teachers in the secondary or high school who will examine them later on!), ladies of the house 5.5% and men without designated profession 5.5%. Eight hundred and nine of the teachers are men, 268 women.

Nearly all the teachers consider the adult school as extra work. Only very few do it exclusively. But some teach every day and are living only by that activity. Most of the instructors are school teachers, leaders of schools, professors, members of an educational council, writers or artists.

The motives that cause people to visit adult schools are very different. One group wants to promote general education and intellectual culture, another takes care of a special interest, still another will work toward a future profession. Men who are eager to win a well-based philosophical and religious outlook prefer courses in which discussions of those subjects are usual.

The writer of these lines, who between 1919 and 1938 (until his removal) gave about 120 courses, found always that personal contact with the hearers is very popular. Often, after the course, we went into a separate room or a restaurant to continue the discussion and to get in personal touch. Or we made excursions together, some students came to musical entertainments at my home. With others there arose friendships that lasted for many years or still exist.

It would be interesting to write a history of the adult school movement. I possess an old leaflet of the Adult School of Munich for the year 1906, in which seven courses are advertized. All teachers were university teachers, among them my father, professor of romance languages. He taught about the flower of French literature under Louis XIV. At that time the only procedure was to lecture without any personal touch with the hearers or any discussion. So we feel that enormous progress has been made, and we hope that it may help to construct a better and a peaceful world.

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EDITORIAL

We Need More *of a* Common Core

By CARL G. MILLER

EDUCATORS face all sorts of dilemmas, but some are more timely than others. One of the most challenging at the moment is the choice between standardizing curricula and management in public schools throughout the country and allowing wide diversity in schools, with its opportunity to develop individuality, leadership, and local adaptations.

With a large part of the population migratory, almost like birds, as they follow the harvest period, seek work on the latest multi-million-dollar project, or get new corporation or military assignments, there is good reason to have the curriculum and management of grade and high school the same in all parts of the country. Certainly such standardization would have numerous benefits. There would be considerable economy. Parents shifting from one place to another would be like automobile drivers moving across the country. They could get standardized educational service for their children because the schools would be like garages possessing mechancis with similar training and standardized machine tools and parts. It is true, though, that such a program would call for much more federal control of education. School periods ought to be the same. Teacher preparation would have to be similar. Teacher salaries would have to be pretty much on the same scale. The emphasis in instruction would have to be to teach the fundamentals of a general education for good citizenship and "drive them home." If the thing were well planned and well manned, education for good citizens might in time reach a higher level than it does today.

There is something deadening, on the other hand, about standardization. Teachers are not encouraged to try the new, which might be better, or they find their ardor cooled because they may not be distinctive. Certain benefits of competition between schools would be lost. School names might tend to run merely to numbers, with attendant dullness.

As the federal government prepares to help the states in financing education, it is time to determine the best policy. What is best for the country as a whole? When all sorts of dangerous tendencies are showing like Belshazzar's handwriting on the wall—communism favored over American democracy, security put before freedom, exploitation of resources for the present generation only, spending now and paying later, getting and more getting as life's principal ideas—there is need for a more thorough education in loyal and wise citizenship than the schools are putting over. Most could well be more thoroughly standardized. A certain few, where the talent for successful experimentation is most evident, should be allowed to develop new ideas. There should be a limited amount of local adaptation. But to better the *score*, we need *more* of a common *core*.

BOOK REVIEWS

The Challenge of Industrial Relations. By Sumner H. Slichter. Ithaca, New York: Cornell University Press. 1947. Pp. vi, 196. $2.50.

Within the lifetime of freshmen now entering collge a revolution has taken place in American society, a revolution the implications of which are not yet altogether understood by many of their prospective teachers. This revolution is the attainment of relative maturity by the labor movement. No longer can the informed "liberal" continually resolve his doubts about labor-management conflict in favor of labor and still retain his intellectual self-respect. This is impossible when the economic and political power of some labor leadership is equal to or is greater than that of the leadership of many of our largest corporations. If it is true that power corrupts; and, further, if it is true that labor leaders are just as human as the rest of us; then, for the true liberal, powerful labor leaders, like powerful leaders in any field, should be *a priori* suspect to the measure of their power.

The problems raised by a relatively powerful labor movement organized in the form of competing unionism are not unlike those of a community of competing nationalisms. All the elements of diplomacy, power politics, and war are present. There are the questions of boundaries, of propaganda, of prestige. There is the saving of face. Within unions, as within nations, a Left and a Right are found, as is found the conflict between aggressive, ruthless leadership and the ideal of democratic consensus. In their struggles with each other and with management, labor unions affect the public interest. This has always been true; though, with the growth of industry-wide bargaining, the public interest increasingly runs the danger of being throttled. And not only is the public interest possibly embarrassed by the use of labor's power; the interests of organized labor itself are not entirely understood, and both wages and employment are likely to be adversely affected by unintelligent actions on the part of labor leadership.

In brief, the labor movement is no longer a simple conflict between oppressors and oppressed, with the oppressors always on the same side. The situation is now one where the parties take on these characteristics interchangeably. But all this is not the result of a basic change in human nature. The wolves have not lost their teeth nor the lambs their bleat. It is merely that a devil's instrument—organization—is now available all around.

It is on this general theme that Professor Slichter's book is written. The material was presented as a series of six lectures at Cornell University in November, 1946. Though the lectures were somewhat revised for publication, the passage of the Taft-Hartley Act makes some of the suggestions slightly dated. This, however, detracts in no way from the value of the book. Indeed, it adds to it, inasmuch as intelligent evaluation of the Labor-Management Act of 1947 cannot be attained without the background of understanding which this book furnishes. Except for chapter three, where the author goes into some slightly technical and somewhat controversial wage analysis, the book can be easily understood and profitably read without any special training in economics. It is recommended to anyone who is aware of the complexities of life in an organized industrial world.

— RENZO BIANCHI, Carleton College

The Industrial Revolution, 1760-1830. By T. S. Ashton. New York: Oxford University Press. 1948. 167 pages. $2.00.

This little book, one in The Home University Library of Modern Knowledge list of some 200 titles, is a succinct and comprehensive consideration, by the Professor of Economic History in the University of London, of the "Industrial Revolution."

Professor Ashton looks upon this significant movement as an achievement rather than a catastrophe. Stress is laid upon the intellectual and economic ramifications of the "Industrial Revolution" as well as upon the technical aspects of those sweeping changes which we call loosely "the" industrial revolution.

Dangerous Trends—Being the prefatory material to the Handbook of Private Schools. By Porter Sargent. Boston: Porter Sargent. 1948. $2.00.

All's right with America as long as Porter Sargent can fulminate from Boston's Beacon Street. In this 31st edition of the famous *Handbook of Private Schools*, Porter Sargent discusses many facets of education from current predicament of the private schools to the consecration of Eisenhower to Morningside Heights and to strange stirrings in The Yard at Cambridge. Porter Sargent is far more than an amusing writer; he is a direct and honest thinker, a relentless foe of cant and sham in education.

Insights into Labor Issues. Edited by Richard A. Lester and Joseph Shister. New York. The Macmillan Company. 1948. x and 368 pages. $4.00.

American school people are certainly aware these days of the extent and the perplexity of labor problems in our dynamic society. With the recent attention given by educators to such matters as salary scales, democratic school organization and administration, and the responsibilities of the states and the federal government for education, it is becoming increasingly evident to school people that labor problems impinge upon the school houses of our land. Few educators, however, have a basic and fundamental understanding of labor relations and issues in collective bargaining. The essays of this collection present careful analyses or investigations of a number of important labor subjects.

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